Acer Altos G510 series

User's guide

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User's guide

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Record the model number, serial number, purchase date, and place of purchase information in the space provided below. The serial number and model number are recorded on the label affixed to your computer. All correspondense concerning your unit should include the serial number, model number, and purchase information.

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Model Number : _________________________________

Serial Number: ___________________________________

Purchase Date: ___________________________________

Place of Purchase: ________________________________

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Notices

FCC notice

Class A devices do not have an FCC logo or FCC IDE on the label. Class B devices have an FCC logo or FCC IDE on the label. Once the class of the device is determined, refer to the following corresponding statement.

Class B equipment

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the device and receiver
- Connect the device into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for help

Notice: Shield cables

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

Notice: Peripheral devices

Only peripherals (input/output devices, terminals, printers, etc.) certified to comply with the Class A or Class B limits may be attached to this equipment. Operation with noncertified peripherals is likely to result in interference to radio and TV reception.

Caution! Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this server.

Use conditions

This part complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice: Canadian users

This Class A/Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Laser compliance statement

The CD-ROM drive in this server is a laser product. The CD-ROM drive's classification label (shown below) is located on the drive.

CLASS 1 LASER PRODUCT
CAUTION: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

Important safety instructions

Read these instructions carefully. Save these instructions for future reference.

1 Follow all warnings and instructions marked on the product.

2 Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

3 Do not use this product near water.

4 Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

5 Slots and openings on the back or bottom side of the chassis are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.

6 This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.

7 Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.

8 If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.

9 Never push objects of any kind into this product through chassis slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

10 Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

11 Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    a When the power cord or plug is damaged or frayed
    b If liquid has been spilled into the product
    c If the product has been exposed to rain or water

   d If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.

   e If the product has been dropped or the cabinet has been damaged

   f If the product exhibits a distinct change in performance, indicating a need for service.

12 Replace the battery with the same type as the product's battery we recommend. Use of another battery may present a risk of fire or explosion. Refer battery replacement to a qualified service technician.

13 **Warning!** Batteries may explode if not handled properly. Do not disassemble or dispose of them in fire. Keep them away from children and dispose of used batteries promptly.

14 Use only the proper type of power supply cord set (provided in your accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, type SPT-2, rated 7A 125V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

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1 System tour

The Acer Altos G510 series server is a powerful dual-processor system loaded with a host of new and innovative features. The system offers a new standard for flexible productivity ideal for general business applications, email, web service, file clustering and print services.

Features summary

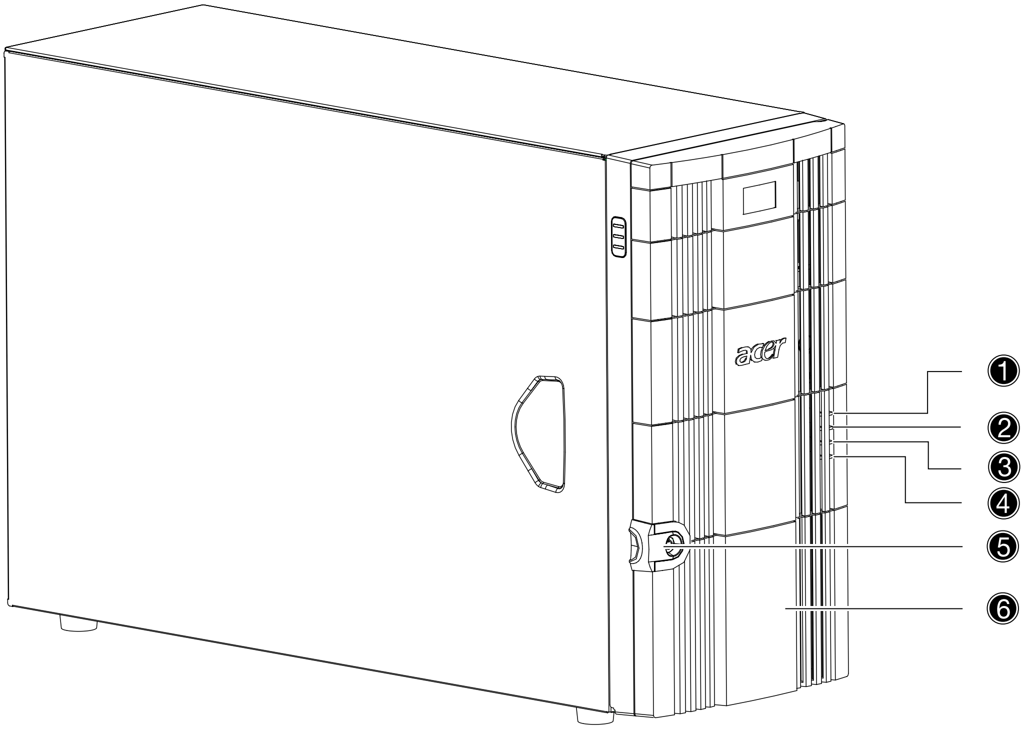
Highlighted below are the system's key features:

- Single or dual Intel® Xeon™ processor
- ServerWorks GC-SL core logic chipset consisting of three distinct components:
  - CMIC SL - north/host bridge
  - CSB5 - south bridge
  - CIOB-X2 - I/O bridge
- Onboard Broadcom BCM5702 10/100/1000Base-T Gigabit Ethernet controller
- LSI® 53C 1020 single Channel SCSI controller chipset
  - SCSI Channel - one 68-pin Ultra320/m SCSI connector
- Six PCI bus slots with three separate bus segments
  - Two 64-bit/100 MHz PCI-X bus slots
  - Two 64-bit/66 MHz PCI bus slot
  - Two 32-bit/33 MHz PCI bus slot
- ATI Rage XL chipset with 8 MB SDRAM of video memory
- Four DIMM sockets supporting ECC 266 MHz DDR modules for a maximum memory capacity of 4 GB
- Media storage
  - 3.5-inch, 1.44 MB floppy drive
  - IDE CD-ROM drive
- Additional media storage capacity
  - Altos G510 - one Hot Plug HDD cages (6 hard disk capacity)
  - Altos G510 Basic - one SCSI cable cage
- External ports
  - PS/2-compatible keyboard and mouse port
  - Two USB ports
  - VGA/monitor port
  - Serial port
  - Parallel/printer port
  - One LAN port
- Power supply unit (PSU)
  - Altos G510 - 450-watts redundant power supply (with power distribution board)
  - Altos G510 Basic - 450-watts standard power supply

External and internal structure

Front bezel

Note: One pair of system keys are provided (attached to the rear panel of the system).

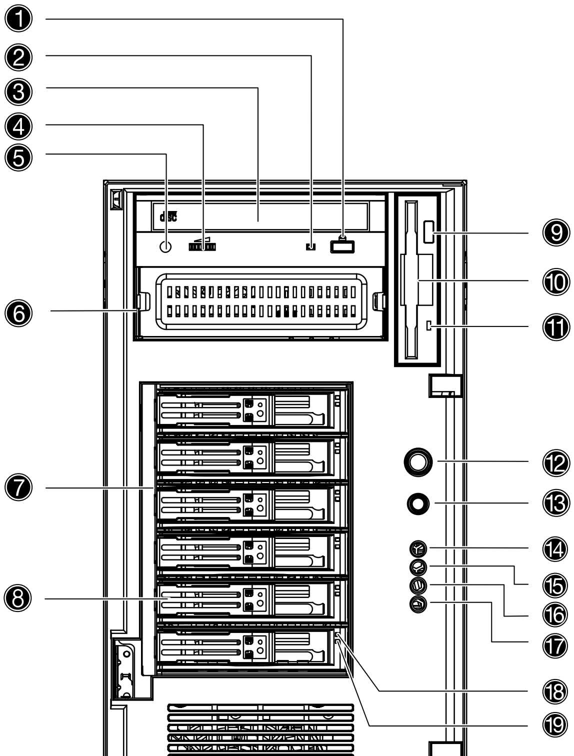


Note: Unless otherwise indicated, all front bezel features indicated on the table below apply to both the Altos G510 and Altos G510 Basic models.

No.	Description
1	Power indicator
2	Hard disk activity indicator

No.	Description
3	System fault indicator
4	Hard disk fault indicator (for Altos G510 model only)
5	Security keylock
6	Front bezel

Front panel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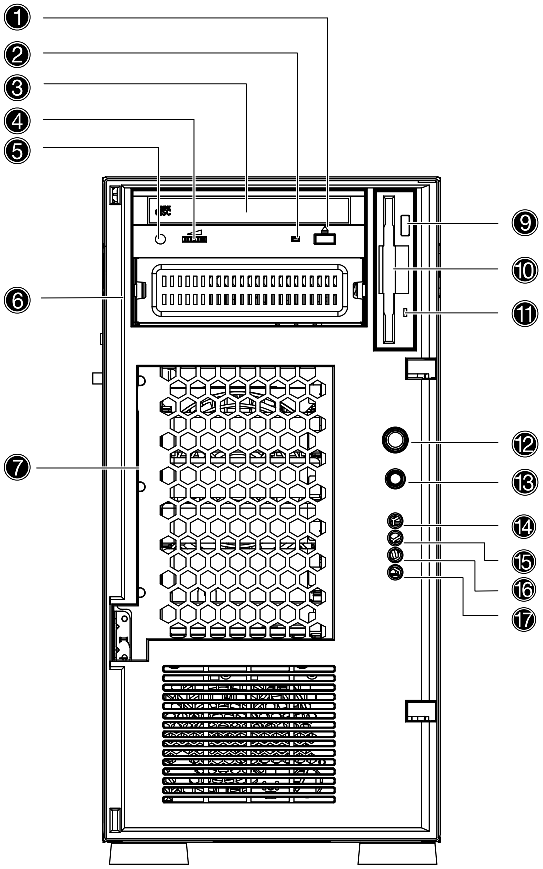
Altos G510 model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Altos G510 Basic model

Note: Unless otherwise indicated, all front panel features indicated on the table below apply to both the Altos G510 and Altos G510 Basic models.

No.	Description
1	CD-ROM drive Stop/Eject button
2	CD-ROM drive activity indicator
3	CD-ROM drive
4	Volume control
5	CD-ROM drive Headphone/Earphone port
6	5.25-inch half-height bay
7	Altos G510 - Hot Plug HDD cage Altos G510 Basic - non-Hot Plug HDD cable cage
8	HDD carrier (for Hot Plug HDD Cage only)
9	Floppy drive Eject button
10	Floppy drive
11	Floppy drive activity indicator
12	Power button
13	Reset button
14	Power indicator
15	Hard disk activity indicator
16	System fault indicator
17	Hard disk fault indicator (for Altos G510 model only)

No.	Description
18	Hot Plug HDD power indicator [1] (for Hot Plug HDD cage only)
19	Hot Plug HDD access indicator [2] (for Hot Plug HDD cage only)

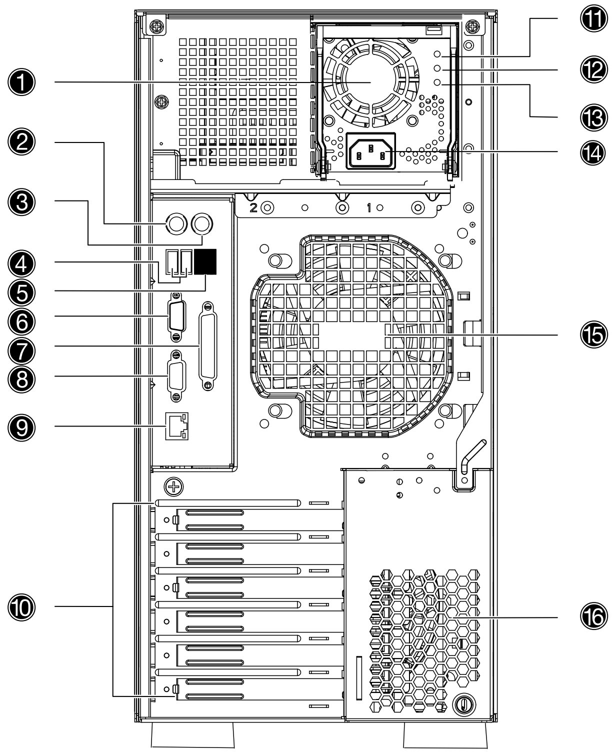
1 This indicator lights up green to indicate HDD power on and lights up in red when a HDD fault occurs.

2 This indicator lights up green to indicate drive access.

Note: During Rebuild, lights flash alternately red and green.

Note: Feature 17 only operates when the Hot Plug HDD cage is installed and RAID configured.

Rear panel



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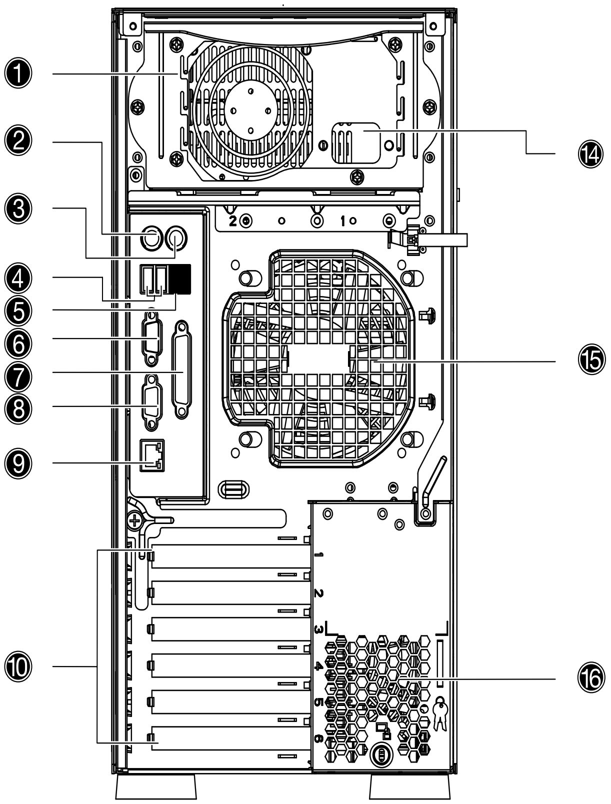
Altos G510 model



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Altos G510 Basic model

Note: Unless otherwise indicated, all rear panel features indicated on the table below apply to both the Altos G510 and Altos G510 Basic models.

No.	Icon	Description
1		Altos G510 model - Main power supply unit Altos G510 Basic model - Standard 450-watts PSU
2	⌨	PS/2 keyboard port
3	🖱	PS/2 mouse port
4	⭍	USB ports
5	RDM	RDM LAN port (10 Mbps) [1] This port is not accessible on Altos G510 and G510 Basic models.
6		Serial port
7	🖶	Parallel/printer port
8	🖵	VGA/monitor port
9	Gbit	Gigabit LAN port (10/100/1000 Mbps)
10		Expansion slots
11	⏽	Main power supply indicator [2] (for Altos G510 model only)
12	⚠	Main power supply fail indicator [3] (for Altos G510 model only)
13	🔌	Main power supply AC power indicator [4] (for Altos G510 model only)
14		Main power supply cable socket

No.	Icon	Description
15		Rear system fan
16		Ventilation slots

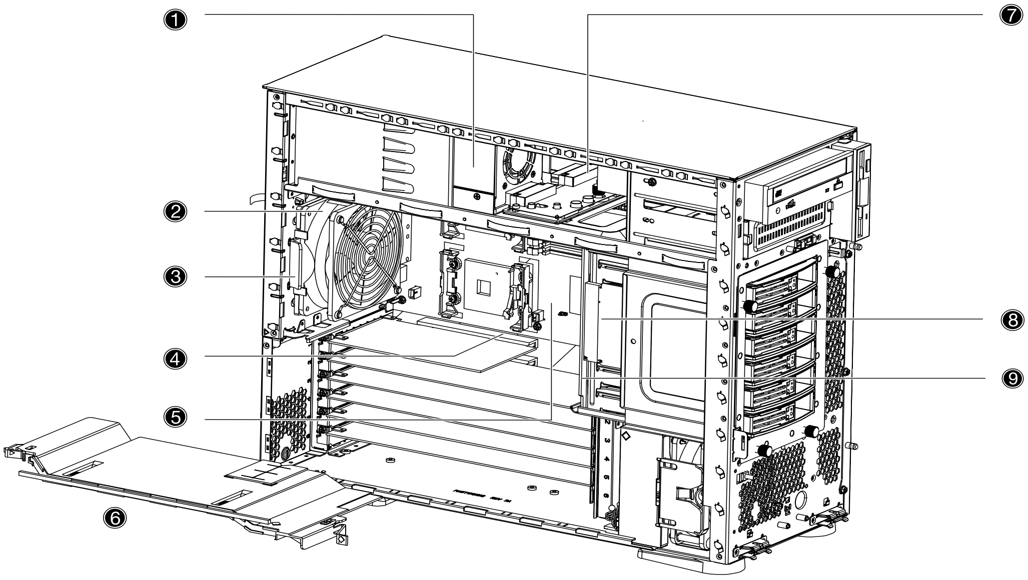
1 N/A on Altos G510 or G510 Basic model. Reserved for future models.

2 This indicator will light up green when the power supply module is functioning properly.

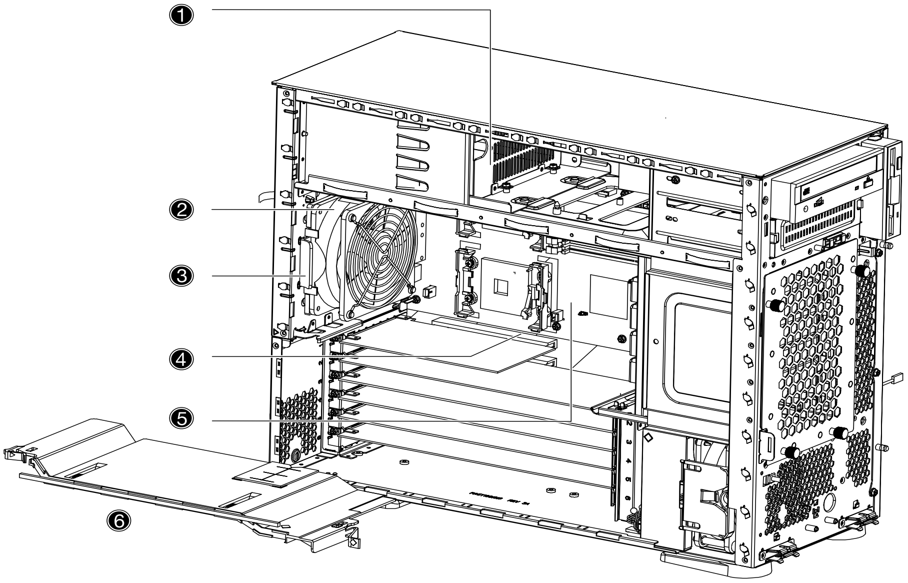
3 This indicator will light up amber when the power supply module or any PSU internal fan fails.

4 This indicator will light up green when the input voltage is within the AC input voltage range.

Internal components



Altos G510 model



Altos G510 Basic model

Note: Unless otherwise indicated, all internal components indicated on the table below apply to both the Altos G510 and Altos G510 Basic models.

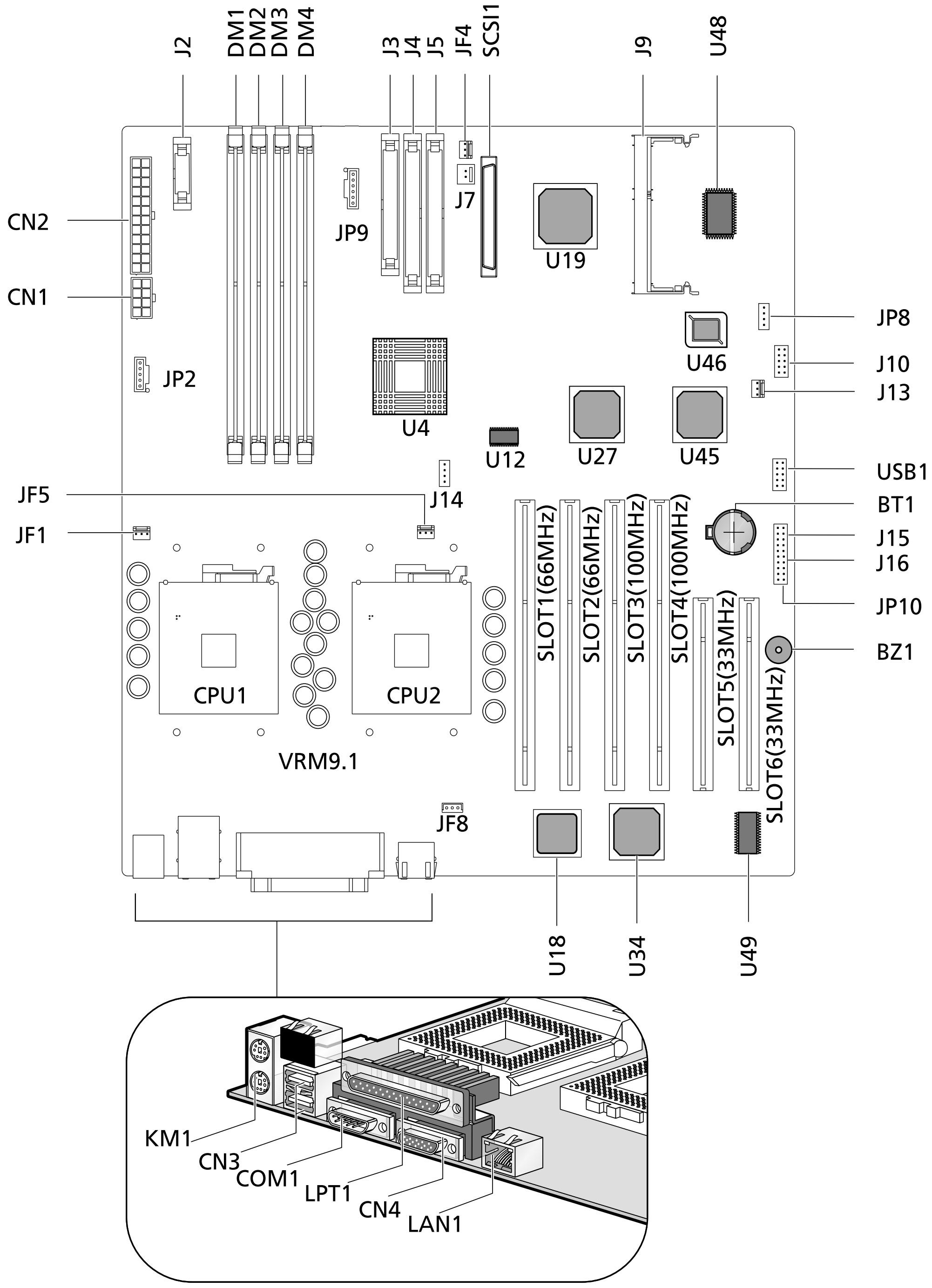
No.	Description
1	Altos G510 model - Power supply module bay for redundant PSU [1] Altos G510 Basic model - Standard 450-watts PSU
2	Rear system fan
3	Rear system fan release latch
4	PCI bus slot
5	Mainboard
6	Air baffle
7	Power distribution board (for Altos G510 model only)
8	Hot-swap HDD SAF-TE board (for Altos G510 model only)
9	Hot-swap HDD backplane board (for Altos G510 model only)

[1] **Though the system supports two hot-swappable power supply module bays, the system comes bundled with a single power supply module only. You have the option to purchase an extra power supply module to provide the system with redundant power source.**

System boards

Mainboard layout

The mainboard becomes accessible once you open the system. It should look like the figure shown below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DM1
DM2
DM3
DM4
J3
J4
J5
JF4
SCSI1
J9
U48
CN2
CN1
JP9
J7
U19
JP8
U46
J10
J13
JP2
U4
U12
U27
U45
USB1
JF5
J14
BT1
JF1
J15
J16
JP10
BZ1
SLOT1(66MHz)
SLOT2(66MHz)
SLOT3(100MHz)
SLOT4(100MHz)
SLOT5(33MHz)
SLOT6(33MHz)
CPU1
CPU2
VRM9.1
JF8
U18
U34
U49
KM1
CN3
COM1
LPT1
CN4
LAN1

Note: Unless otherwise indicated, all mainboard features indicated on the table below apply to both the Altos G510 and Altos G510 Basic models.

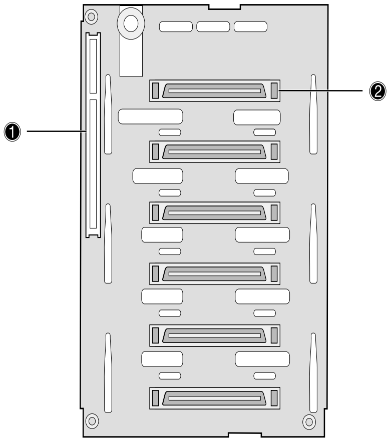
Item	Description
BT1	Battery
BZ1	Buzzer
CN1	+12V power connector
CN2	ATX power connector
CN3	USB ports
CN4	VGA/monitor port
COM1	Serial port
CPU1 and CPU2	CPU sockets
DM1 - DM4	DIMM slots
J2	Front panel connector
J3	Floppy disk drive connector
J4	Primary IDE connector
J5	Secondary IDE connector
J7	Chassis intrusion connector
J9	BMC daughter board connector
J10	MLB Jumper 1-2 Password Enable (Default Setting: Off) 3-4 Clear NVRAM (Default Setting: Off) 5-6 Recovery Mode (Default Setting: Off)
J13	Wake on LAN connector
J14	SCSI RAID card HDD LED connector

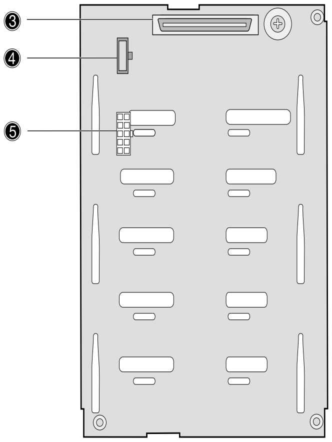
Item	Description
JF1	CPU 1 fan connector
JF4	Front fan connector
JF5	CPU 2 fan connector
JF8	Rear system fan connector
JP2	Power supply mangement cable connector (connected to PDB board)
JP8	IPMB connector
JP9	SCSI HDD management cable connector (conneted to Hot Plug HDD cage backplane board)
JP10	Connector for Remote Management Card (RMC)
J15	Power On/Off connector for RMC
J16	Reset Connector for RMC
KM1	Upper: PS/2 mouse port Lower: PS/2 keyboard port
LAN1	Gigabit LAN port (10/100/1000 Mbps)
LTP1	Parallel/printer port
SLOT1	64-bit/66 MHz PCI bus slot (Zero Channel RAID compliant) (Green)
SLOT2	64-bit/66 MHz PCI bus slot (White)
SLOT3 and SLOT4	64-bit/100 MHz PCI-X bus slots (Blue)
SLOT5 and SLOT6	32-bit/33 MHz PCI bus slot (5V Support) (White)
SCSI1	SCSI connector
U4	ServerWorks CMIC-SL chipset (north bridge)
U12	System clock
U18	BCM5702 Gigabit LAN chipset

Item	Description
U19	LSI 53C1020 SCSI Chipset
U27	ServerWorks CIOBx2 chipsets (I/O bridge)
U34	ATI Rage XL VGA chipset
U45	ServerWorks CSB5 chipset (south bridge)
U46	Flash BIOS
U48	PC87414 SIO - Super I/O chipset
U49	Video RAM
USB1	USB connector
VRM9.1	Onboard VRMs (Voltage Regulator Module)

Hot Plug HDD Cage backplane board layout

Note: The Hot Plug HDD cage board feature is only applicable to the Altos G510 model.





Label	Description
1	122-pin SAF-TE connector
2	80-pin SCSI HDD connector
3	68-pin SCSI HDD connector
4	SCSI HDD management cable connector (I^2C bus)
5	Power connector

2 System setup

This chapter gives you instructions on how to set up the system. Procedures on how to connect peripherals are also explained.

Setting up the system

Preinstallation requirements

Selecting a site

Before unpacking and installing the system, select a suitable site for the system for maximum efficiency. Consider the following factors when choosing a site for the system:

- Near a grounded power outlet
- Clean and dust-free
- Stable surface free from vibration
- Well-ventilated and away from sources of heat
- Secluded from electromagnetic fields produced by electrical devices such as air conditioners, radio and TV transmitters, etc.

Checking the package contents

Check the following items from the package:

- Acer Altos G510 series system
- Acer Altos G510 series User's guide
- Acer EasyBUILD™
- Acer Altos G510 series Accessory box
- System keys (attached to the rear panel of the system)

If any of the above items are damaged or missing, contact your dealer immediately.

Save the boxes and packing materials for future use.

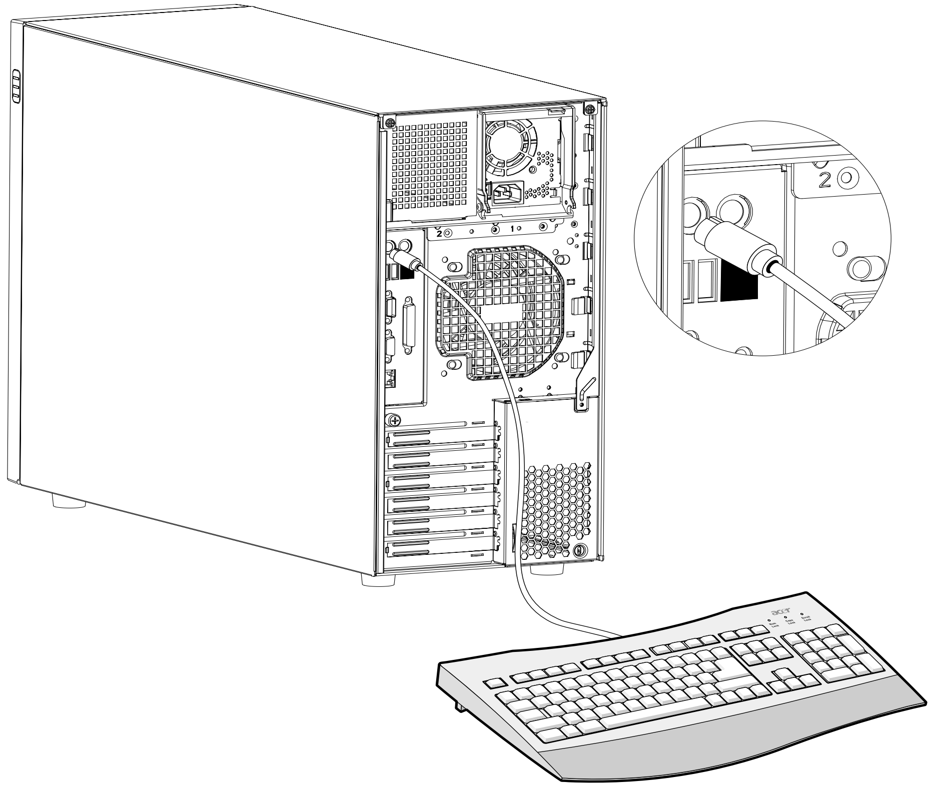
Connecting peripherals

The system unit, keyboard, mouse, and monitor constitute the basic system. Before connecting any other peripherals, connect these basic peripherals first to test if the system is running properly. Instructions on how to connect a printer is also described here, refer to page 25.

Note: Unless otherwise indicated, all illustrations shown in this section show the Altos G510 server chassis.

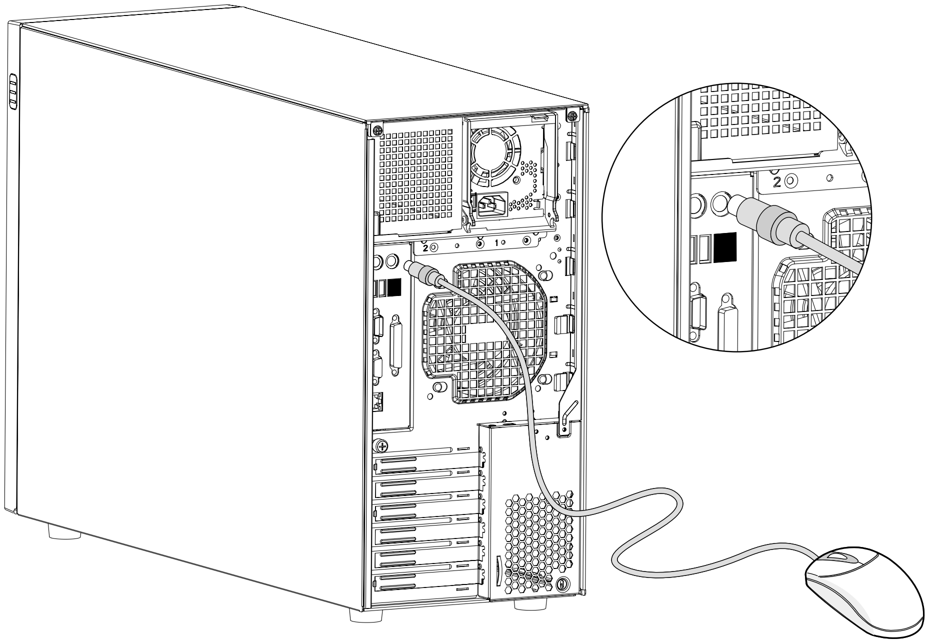
To connect the PS/2 keyboard

Plug the keyboard cable into the PS/2 keyboard port ⌨ (purple port) located on the rear panel of the server.



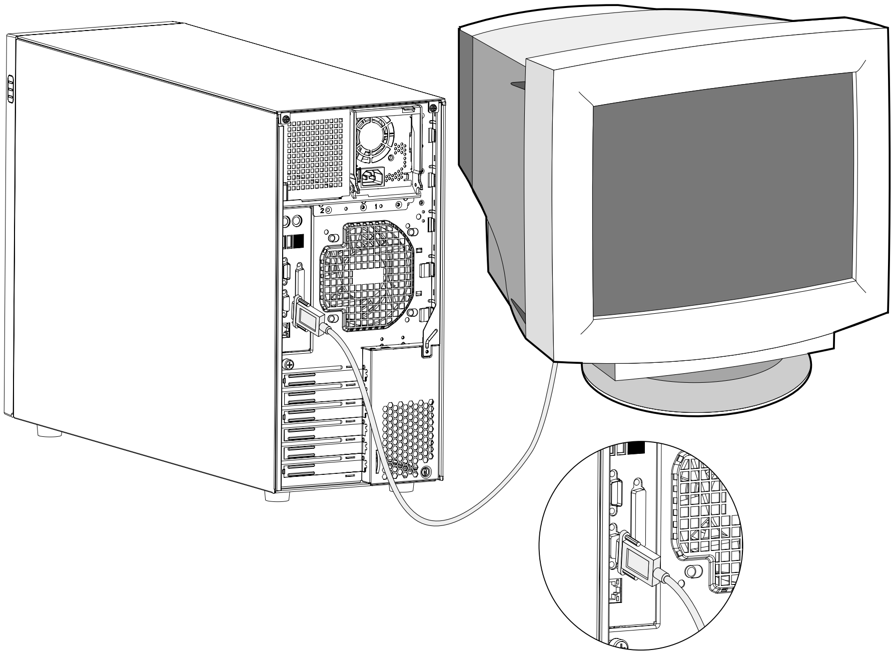
To connect the PS/2 mouse

Plug the PS/2 mouse cable into the PS/2 mouse port 🖱 (green port) located on the rear panel of the server.



To connect the VGA monitor

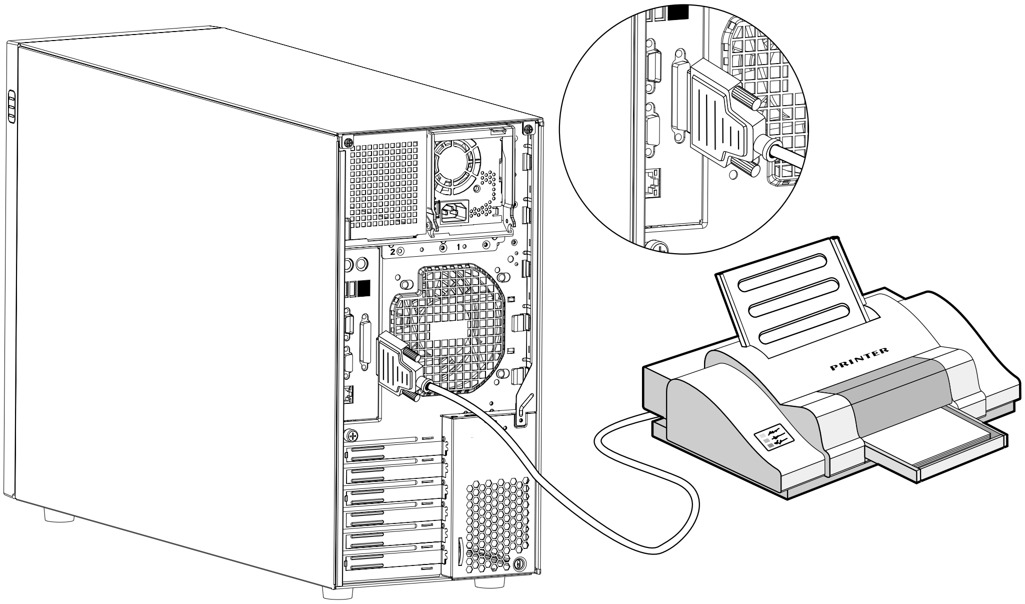
To connect the VGA monitor, simply plug the monitor cable into the VGA/monitor port 🖵 (blue port) located on the rear panel of the server.



To connect a printer

The system supports both parallel and serial printers.

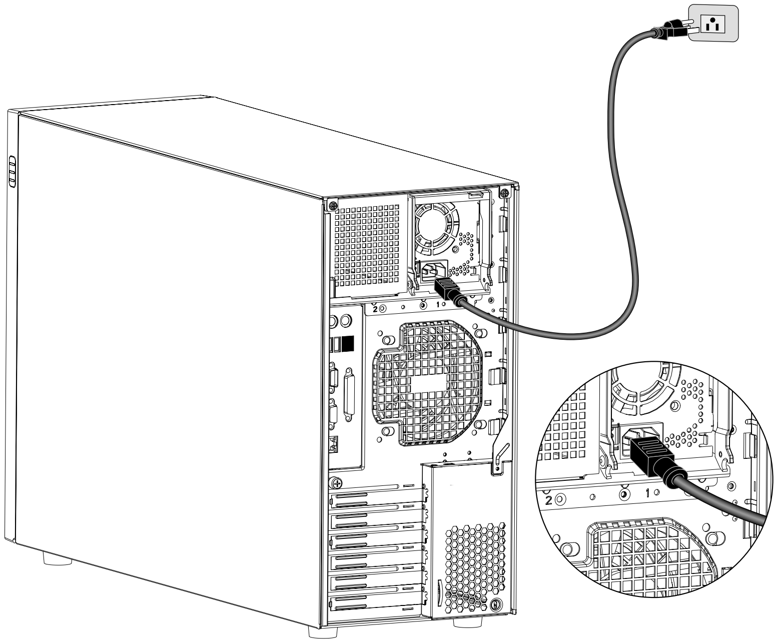
To connect a parallel printer, plug the printer cable into the parallel/ printer port 🖶 (burgundy port) located on the rear panel of the server.



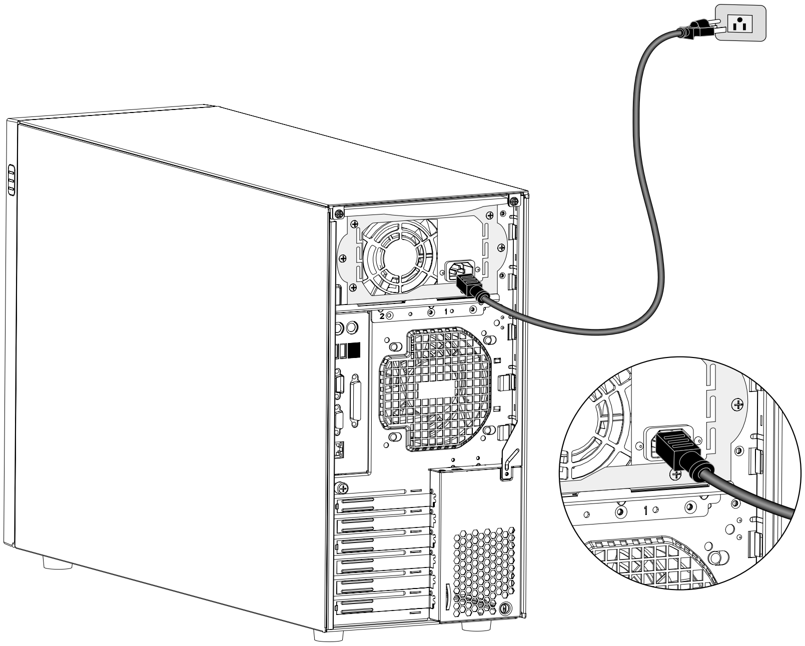
Note: If you are using a USB printer, connect the printer cable into the USB port located on the server’s rear panel.

To connect the power cable

Plug the power cable into the power cable socket located on the rear panel of the server. Then plug the other end of the power cable into a power outlet. The figure below shows a complete connection of the whole system.



Altos G510 model



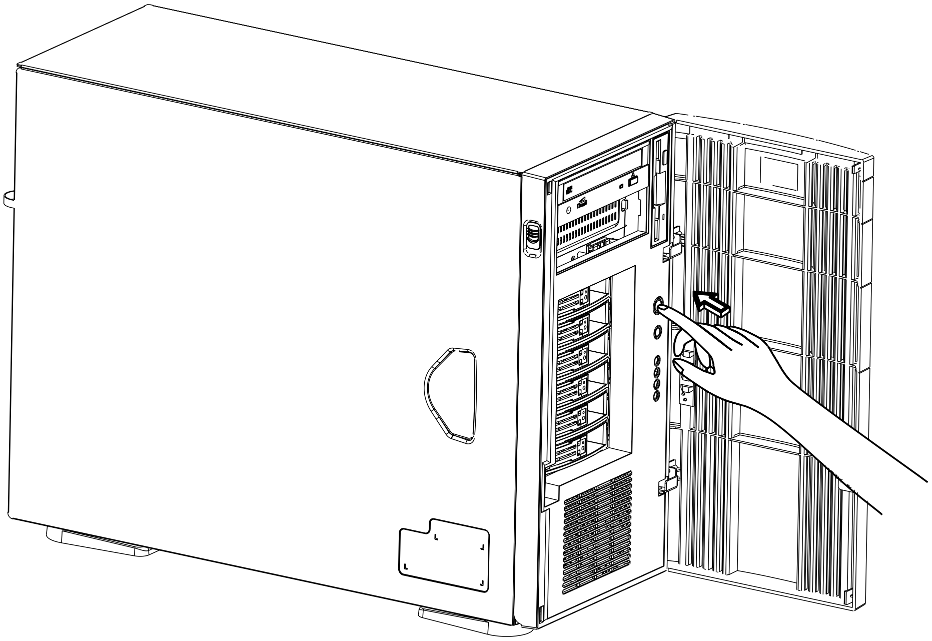
Altos G510 Basic model

Turning on the system

After making sure that you have properly set up the system and connected all the required cables, you can now power on the system.

To power on the system, press the power button on the front panel. The system starts up and displays a welcome message. After that, a series of power-on self-test (POST) messages appears. The POST messages indicate if the system is running well or not.

Note: The illustration below shows the Altos G510 server chassis.



Note: If the system does not turn on or boot after pressing the power button, go to the next section for the possible causes of the boot failure.

Aside from the POST messages, you can determine if the system is in good condition by checking if the following occurred:

- Power indicator on the front panel lights up (green)
- Num Lock, Caps Lock, and Scroll Lock indicators on the keyboard light up

Power-on problems

If the system does not boot after you have applied power, check the following factors that might have caused the boot failure.

- The external power cable may be loosely connected.

  Check the power cable connection from the power source to the power cable socket on the rear panel. Make sure that the cable is properly connected to the power source and to the power cable socket.

- No power comes from the grounded power outlet.

  Have an electrician check your power outlet.

- Loose or improperly connected internal power cables.

  Check the internal cable connections. If you are not confident to perform this step, ask a qualified technician to assist you.

Warning! Make sure all power cords are disconnected from the electrical outlet before performing this task.

Note: If you have gone through the preceding actions and the system still fails to boot, ask your dealer or a qualified technician for assistance.

Operating system configuration

The Acer Altos G510 series server comes with Acer EasyBUILD™ that allows you to conveniently install your choice of operating system. To start using EasyBUILD, follow the steps below.

1. Locate the EasyBUILD System CD included in the system package.
2. With your system turn on, gently press the CD-ROM drive Stop/ Eject button.
3. When the disc tray slides open, insert the EasyBUILD System CD with the label or title side of the disc facing upward.

   Note: When handling the disc, hold it by the edges to avoid smudges or fingerprints.

4. Gently press the disc down to make sure that it is properly inserted.

   Caution! While pressing the disc, be careful not to bend the disc tray. Make sure that the disc is properly inserted before closing the disc tray. Improper insertion may damage both the disc and the CD-ROM drive.

5. Gently press the drive Stop/Eject button again to close the disc tray.
6. The Acer EasyBUILD sequence begins. Follow all onscreen instructions.

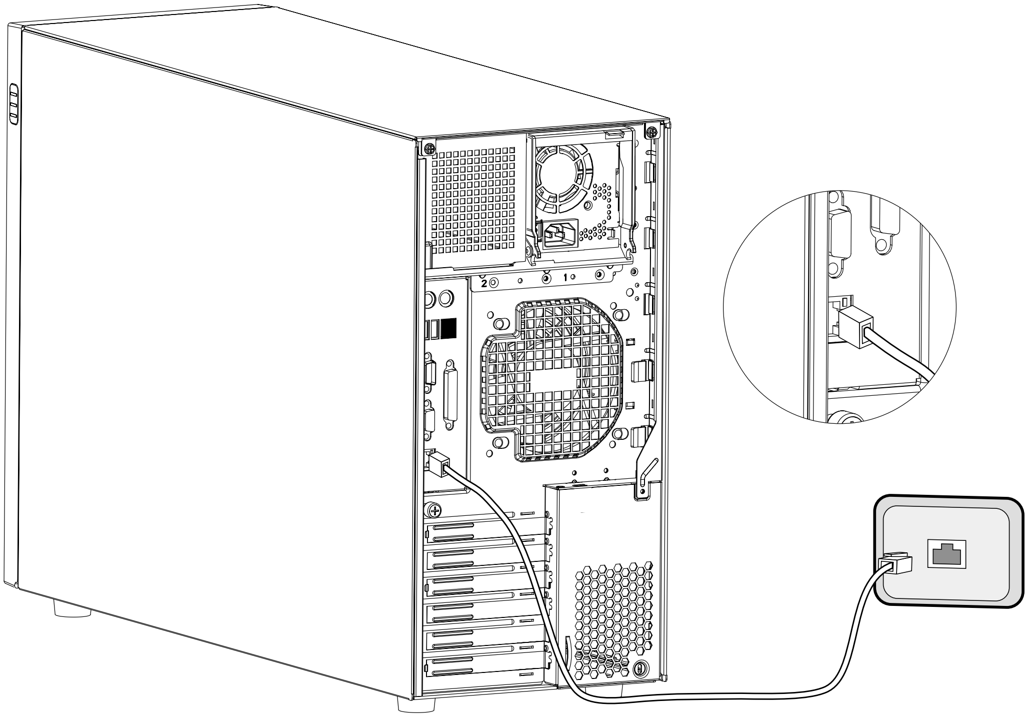
For more information, refer to the EasyBUILD™ Installation guide.

Network connection

The server has one 10/100/1000 Mbps Gigabit Etherned LAN port located on the rear panel for fast network connection.

To connect to the network, simply plug the network cable into the Gigabit LAN port Gbit (gray port).

Note: The illustration below shows the Altos G510 server chassis.



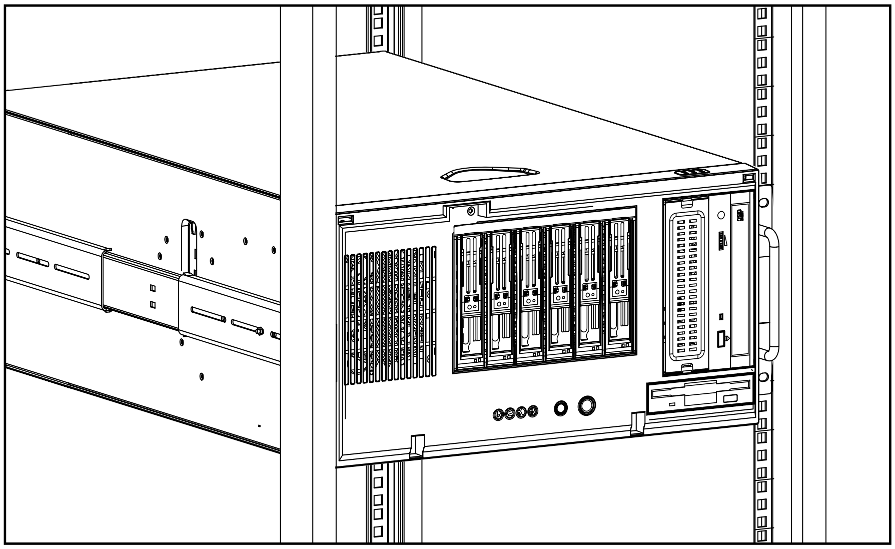
Note: Consult the operating system manual for information on how to configure the network setup.

Tower-to-rack option

Aside from its tower configuration, the Acer Altos G510 series server can also be mounted in a rack-model position. A rack mount kit is available for customers who want to convert a tower-mounted system to rack-model design. To purchase a rack mount kit, contact your local Acer representative.

The figure below shows the server in a rack-mount position.

Note: The illustration below shows the Altos G510 server chassis. Rack Mount instructions are provided as an appendix to this manual.



Turning off the system

To turn off the server, on the Windows taskbar click on the **Start** button, point to **Shut Down...**, select **Shut down** from the drop-down window then click on **OK**. You can then turn off all peripherals connected to your server.

If you are unable to shutdown the server within Windows, press and hold the power button for at least four seconds to force quit all applications and shut down.

3 Upgrading the system

This chapter discusses the precautionary measures and installation procedures you need to know when upgrading the system.

Upgrading the system

Certain components of the server are upgradeable such as the drives, the CPU, the memory, and the expansion cards. However, for safety purposes, we do not recommend that you perform these upgrades yourself. If you want to replace or upgrade any of these components, contact your dealer or a qualified service technician for assistance.

Important: Observe the installation precautions described in the subsequent section when installing or removing a server component.

Installation precautions

Before you install any server component, we recommend that you read the following sections. These sections contain important ESD precautions along with preinstallation and post-installation instructions.

ESD precautions

Electrostatic discharge (ESD) can damage the processors, motherboard, disk drives, expansion boards, or other components. Always observe the following precautions before you install a server component:

1. Do not remove a component from its protective packaging until you are ready to install it.
2. Wear a wrist grounding strap and attach it to a metal part of the server before handling components. If a wrist strap is not available, maintain contact with the server throughout any procedure requiring ESD protection.

Preinstallation instructions

Always observe the following before you install any component:

1. Turn off the system and all the peripherals connected to it.
2. Unplug all cables from the power outlets.

3 Open the system according to the instructions on page 39.

4 Follow the ESD precautions described in this section when handling a server component.

5 Remove any expansion board(s) or peripheral(s) that block access to the DIMM socket or other component connector.

See the following sections for specific installation instructions on the component you want to install.

Warning! Failure to properly turn off the server before you start installing components may cause serious damage. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

Post-installation instructions

Observe the following after installing a server component:

1 See to it that all components are installed according to the described step-by-step instructions.

2 Reinstall any expansion board(s) or peripheral(s) that you have previously removed.

3 Reinstall the air baffle.

4 Reinstall the chassis panels.

5 Connect the necessary cables.

6 Turn on the system.

Opening the server

Caution! Before you proceed, make sure that you have turned off your system and all peripherals connected to it. Read the "Preinstallation instructions" on page 37.

You need to open the server before you can install additional components. The front bezel and left side panel are removable to allow access to the system's internal components. Refer to the following sections for instructions.

Before opening the server

Before opening the server, observe the following precautions:

1. Turn off the system and all the peripherals connected to it.
2. Unplug all cables from the power outlets.
3. Place the system unit on a flat, stable surface.

Note: The illustrations used in this section show the Altos G510 server chassis.

To open the front bezel

A security lock secures the front bezel to protect your system unit against unauthorized access.

To open the front bezel:

1. Insert the key into the lock and turn it clockwise until it points to the unlocked icon 🔓.
2. Open the front bezel.

To remove the front bezel

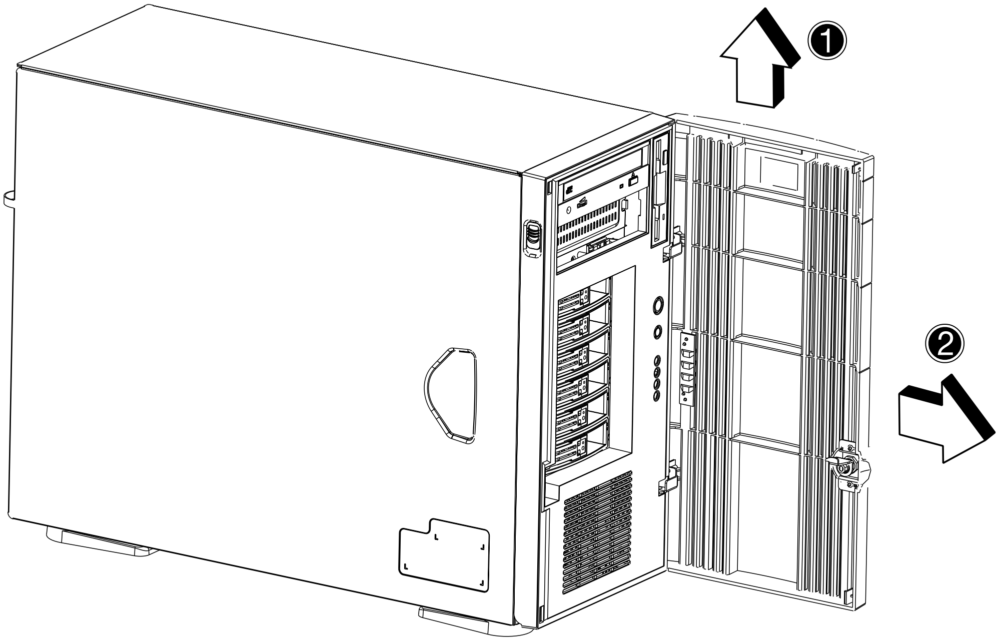
The front bezel is attached to the chassis by screwless hinges.

To remove the front bezel:

1 Unlock the door with the key (when necessary).

2 Open it to more than a 45° angle.

3 Lift it up a little **(1)**, then move it away from the chassis **(2)**.



To remove the inner (front) panel

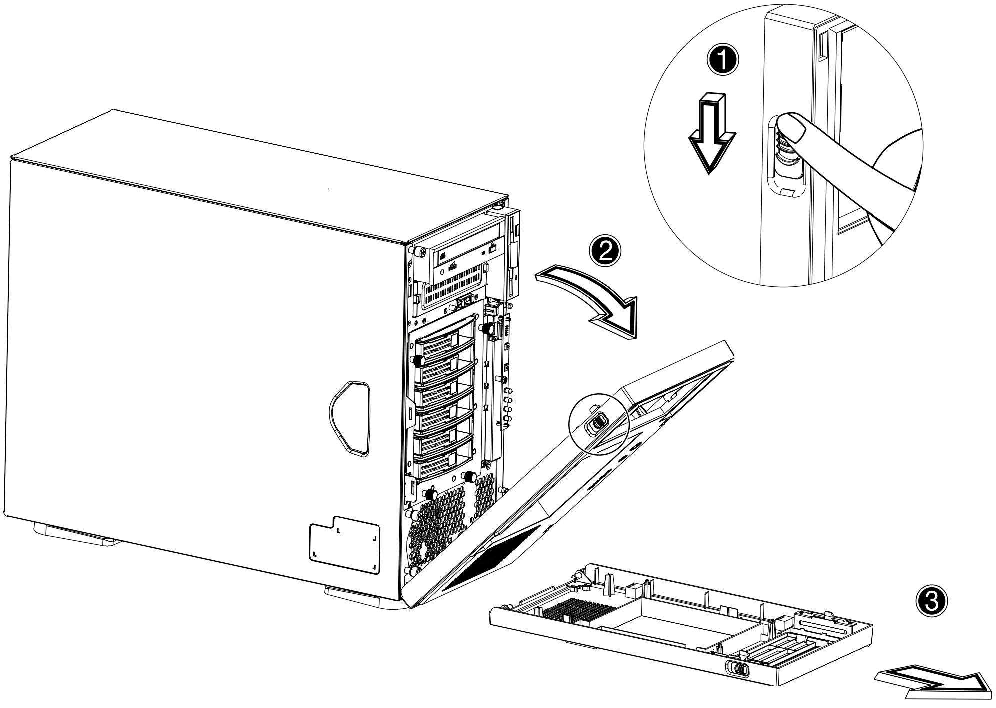
The inner front panel is attached to the chassis by thumb latches at the top and screwless hinges at the bottom.

To remove the inner front panel:

1 Simultaneously slide the two thumb catches at the top to release the latches.

2 Open the panel 90 degrees, until it is perpendicular to the chassis.

3 Gently pull it away from the chassis.



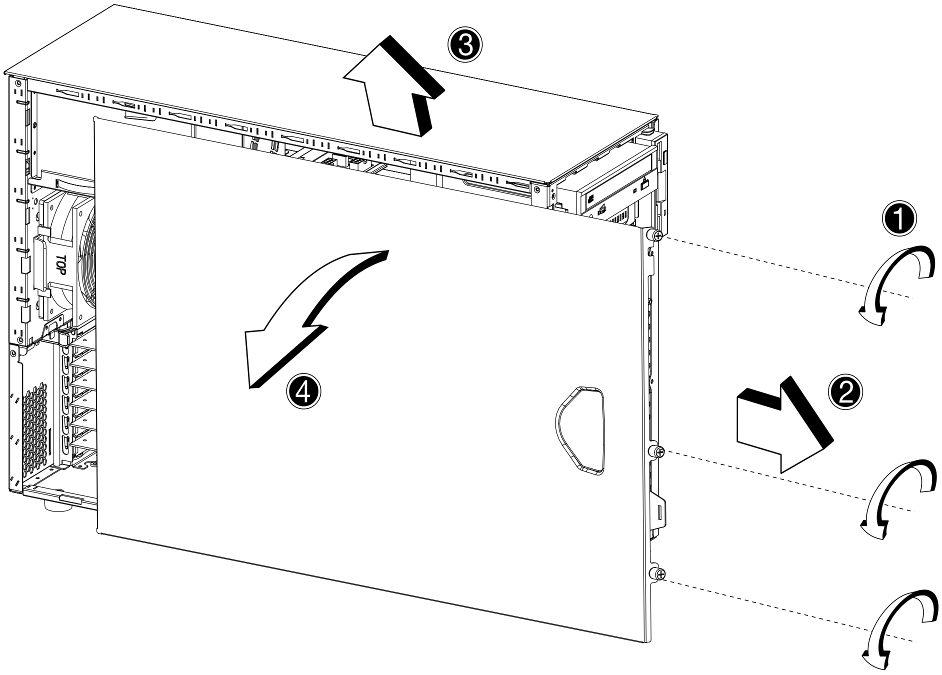
To remove the side panel

The side panel is attached to the server by three (non-removeable) thumbscrews.

To remove the side panel:

1 Loosen the three thumbscrews located at the end of the left panel closest to the front panel **(1)**.

2 Slide the left panel slightly forward **(2)**, then upward **(3)** before detaching it from the chassis **(4)**.

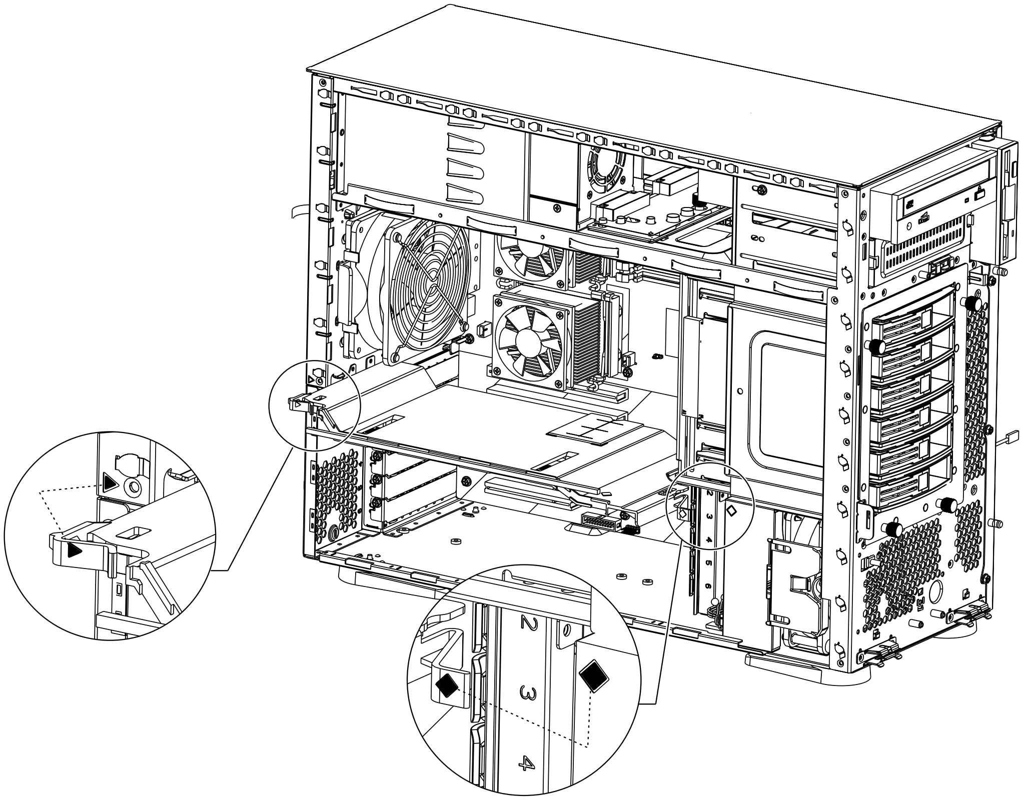


To remove the air baffle

Remove the air baffle to allow easy access to the motherboard and system components.

Follow the steps below to remove the air baffle:

1. Press the release latches on both ends of the air baffle.
2. Pull out the air baffle to remove it from the chassis.



Caution! After completing the component upgrade/replacement procedures, do not forget to reinstall the air baffle before replacing the chassis panels. Failure to do so will reduce the system's cooling efficiency which can adversely affect performance or cause damage due to overheating.

Configuring the Hot Plug HDD cage

This section includes instructions for removing and installing the Hot Plug HDD cage as well as procedures on how to install a hard disk into the cage's hard disk carrier.

Note: The Hot Plug HDD cage feature is only applicable to the Altos G510 model.

To remove the Hot Plug HDD cage

Important: Before detaching the Hot Plug HDD cage from the chassis, make sure to first remove all hard disks from their carriers. For instructions, refer to the succeeding section.

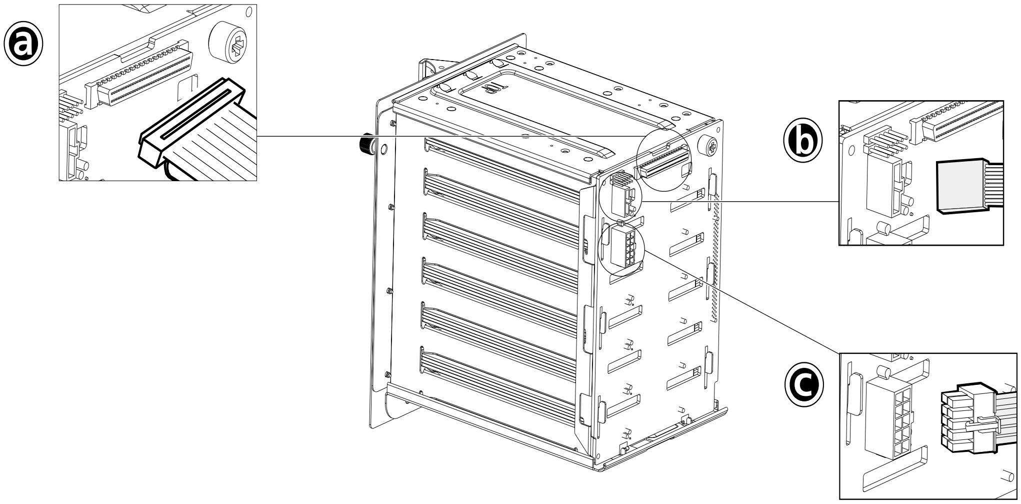
1 Remove the front bezel, inner front panel, side panel and air baffle. Refer to the previous section for detailed intructions.

2 Disconnect the following cables from the cage:

a SCSI cable

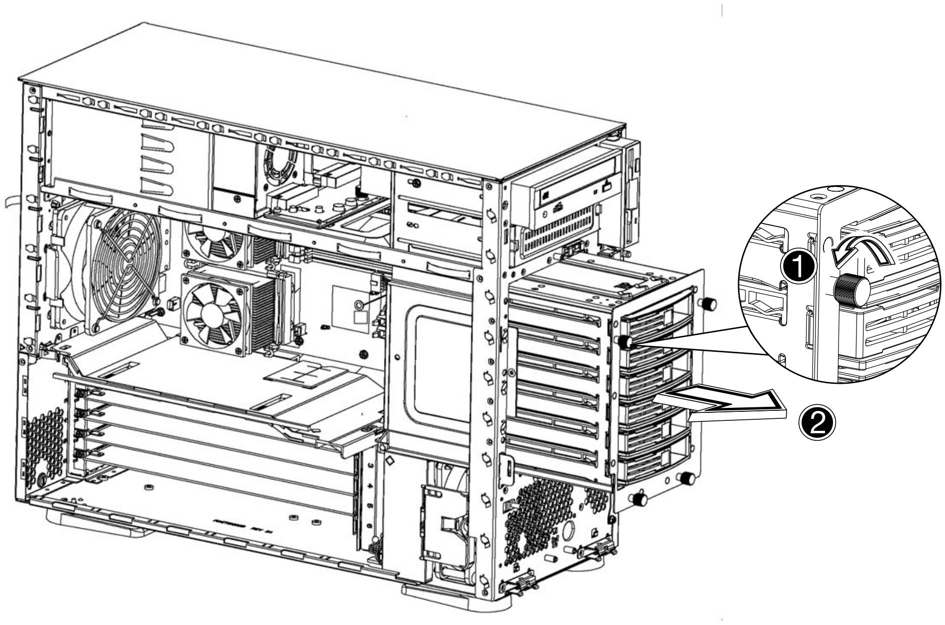
b SCSI HDD 6 pin management cable

c SCSI HDD power cable



3 Loosen the four thumbscrews that secure the cage to the chassis **(1)**.

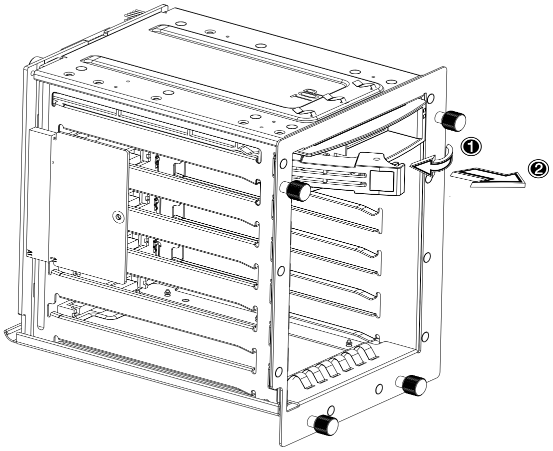
4 Pull the cage from the chassis **(2)**.



To install a hard disk into the Hot Plug HDD cage hard disk carrier

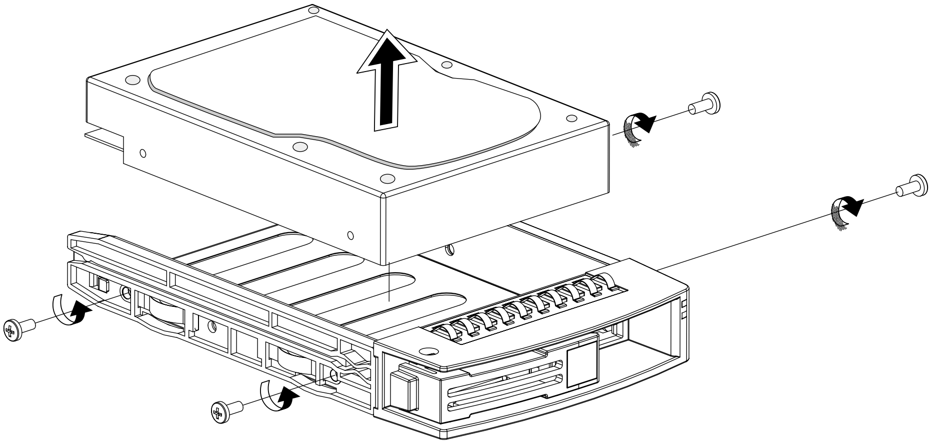
Note: You need not remove the Hot Plut HDD cage from the chassis to install a hard disk into the cage's hard disk carrier.

1 Press your finger to the SCSI HDD release lever **(1)**, then pull out the hard disk carrier from the cage **(2)**.

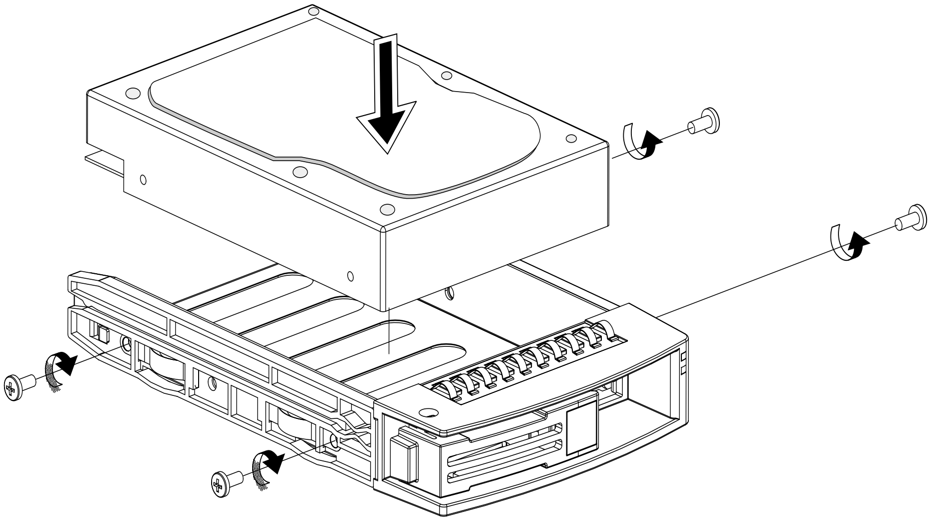


2 Remove the four screws to open the hard disk carrier. Keep the screws for later use.

3 When applicable, pull out any previously installed hard disk.



4 Install a hard disk in the hard disk carrier then secure it with the four screws you have removed earlier.



5 Insert the hard disk carrier into the cage with the lever still extended.

6 Push the lever back until it clicks into place. Make sure that the drive is properly inserted before closing the lever.

To install the Hot Plug HDD cage

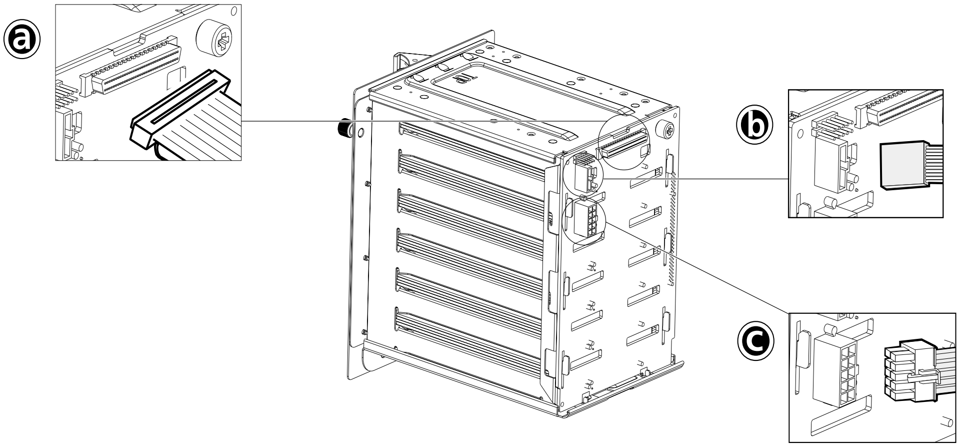
1 Detach the chassis panels and remove the air baffle.

2 Connect the following cables to the SCSI backplane board:

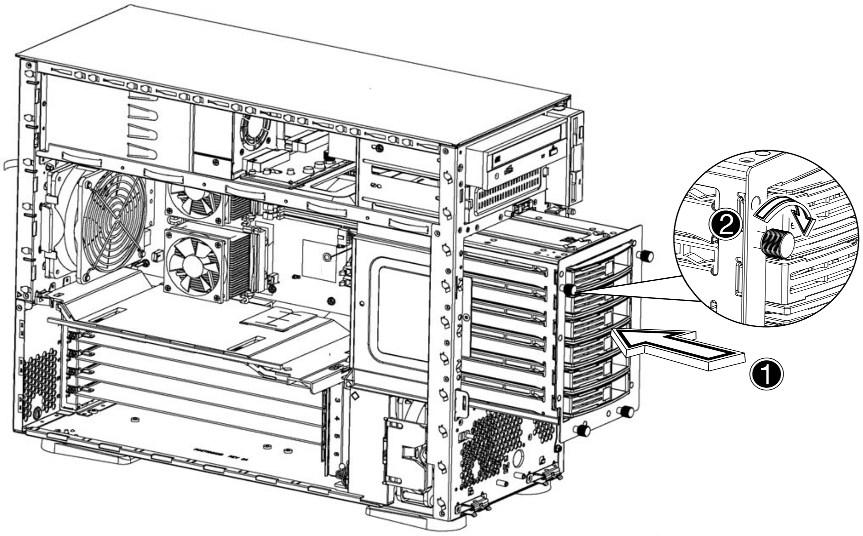
   a SCSI cable

   b SCSI HDD 6 pin management cable

   c SCSI HDD power cable



3 Insert the Hot Plug HDD cage into the housing **(1)**, then tighten the four thumbscrews to secure it to the chassis **(2)**.



4 Attach the other end of these cables to the corresponding connectors on the mainboard.

   Refer to “Mainboard layout” on page 14 for the location of the connectors.

5 Reinstall the air baffle and the chassis panels.

Configuring the non-Hot Plug HDD cable cage

This section includes instructions for removing and installing the HDD cable cage as well as procedures on how to install a hard disk into the cage.

Note: The HDD cable cage feature is only applicable to the Altos G510 Basic model.

To remove the HDD cable cage

1 Turn off the system and all the peripherals connected to it.

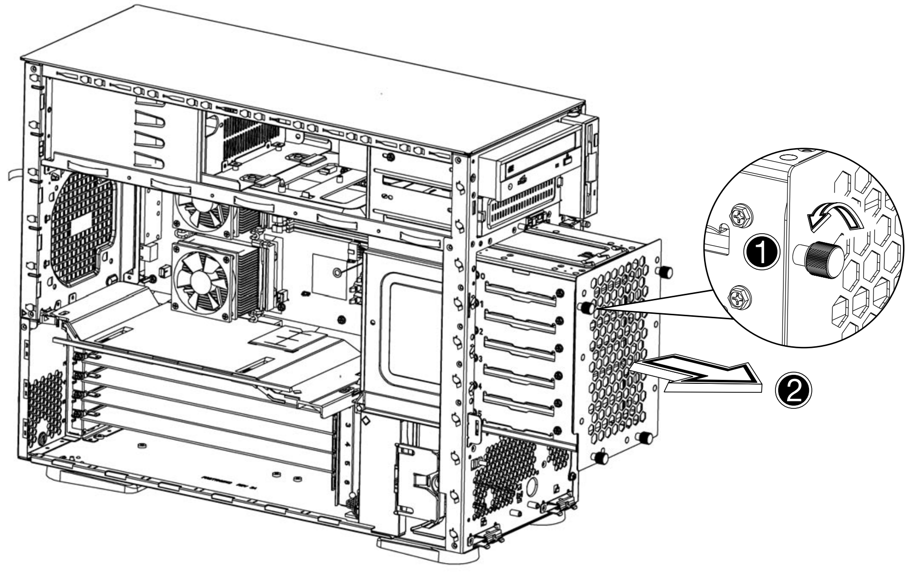
2 Unplug all cables from the power outlets.

3 Place the system on a flat, stable surface.

4 Remove the front bezel, inner front panel, side panel, and air baffle.

5 Disconnect the SCSI cable and the SCSI HDD power cable from the hard disk drive.

6 Loosen the four thumbscrews that secure the cage to the chassis **(1)**.



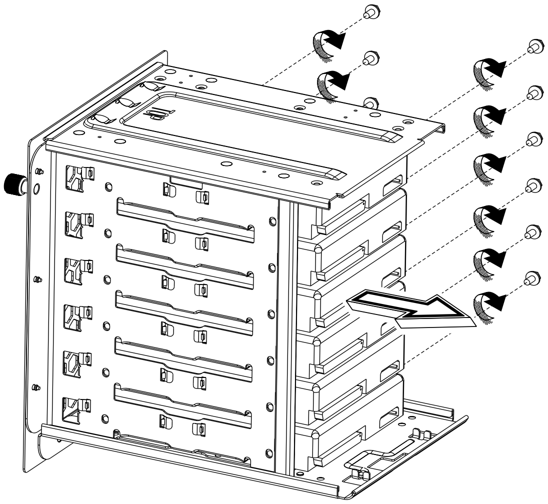
7 Slightly pull out the cage from the chassis **(2)**.

8 Pull the HDD cable cage from the chassis.

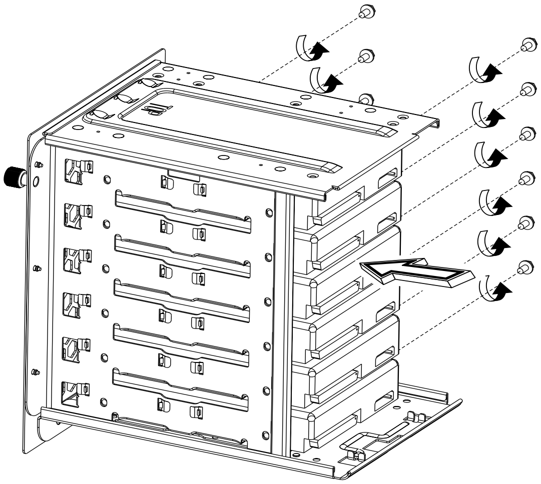
To install a hard disk into the HDD cable cage

1 Remove the HDD cable cage from the chassis. Refer to the instructions in the preceding section.

2 Remove the four screws that secure a previously installed hard disk to the cage then pull it out.



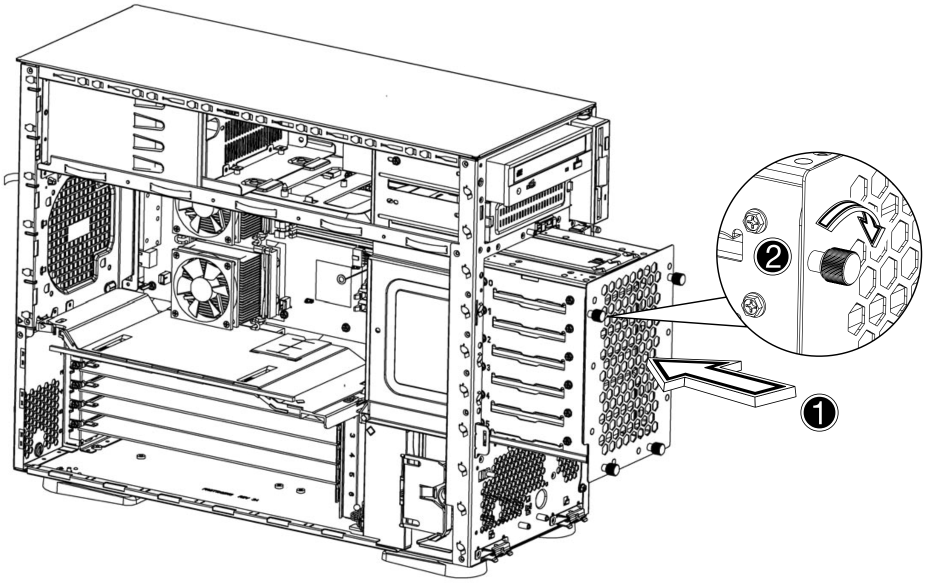
3 Install a new hard disk into the cage then secure it with the four screws you removed in the previous step.



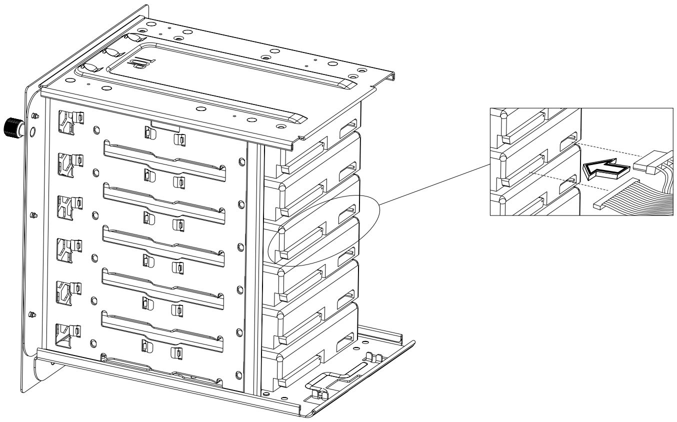
4 Reinstall the HDD cable cage to the chassis. Refer to the instructions in the subsequent section.

To install the SCSI cable cage

1. Turn off the system and all the peripherals connected to it.
2. Unplug all cables from the power outlets.
3. Place the system unit on a flat, stable surface.
4. Remove the front bezel, inner front panel, side panel, and air baffle.
5. Insert the HDD cable cage into the housing **(1)**, then tighten the four thumbscrews to secure it to the chassis **(2)**.



6. Connect the SCSI cable and the SCSI HDD power cable to the hard disk drive.



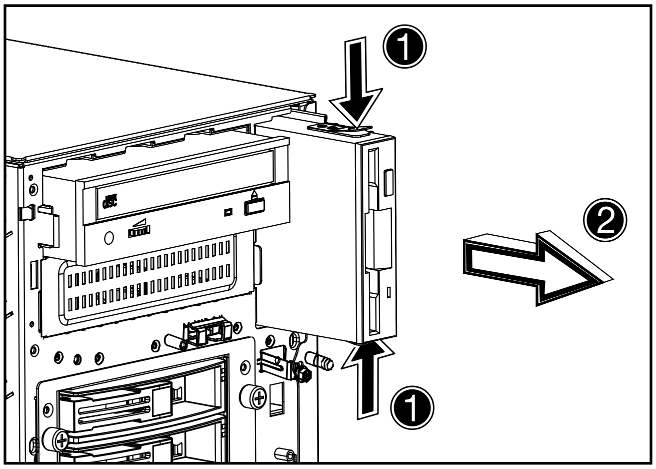
7. Reinstall the air baffle and the chassis panels.

Installing and removing storage devices

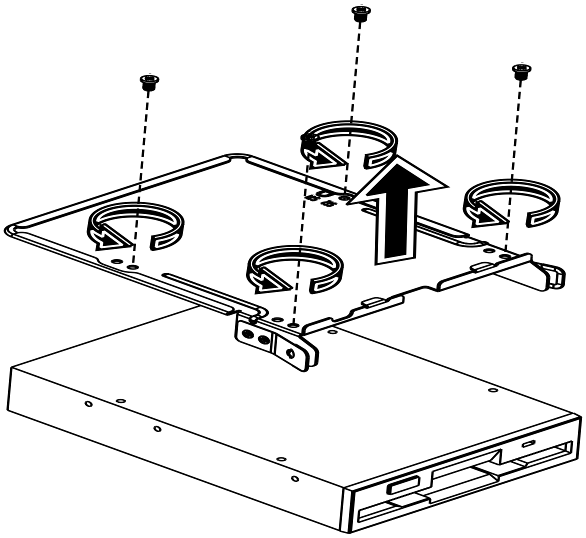
The system supports one 3.5-inch and two 5.25-inch internal storage devices. The system comes pre-installed with a floppy drive and a CD-ROM drive. The empty 5.25-inch half-height bay allows you to install additional drives such as another CD-ROM drive or a tape drive.

To replace the 3.5-inch floppy drive

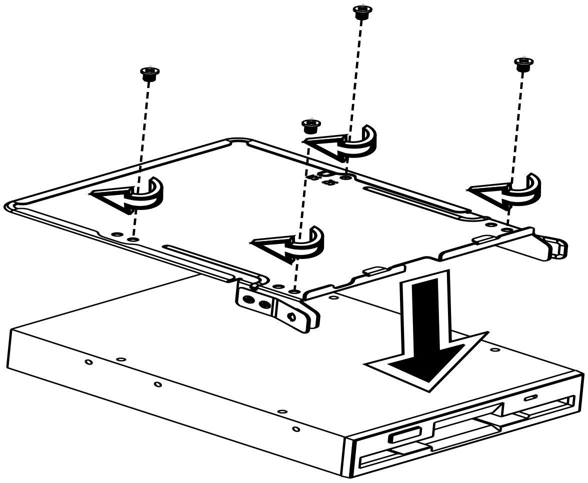
1. Observe the ESD precautions and pre-installation procedures described on page 37.
2. Disconnect the IDE and floppy drive cables from the old drive.
3. Press the release bracket on both sides of the drive carrier **(1)** before pulling it out from the chassis **(2)**.



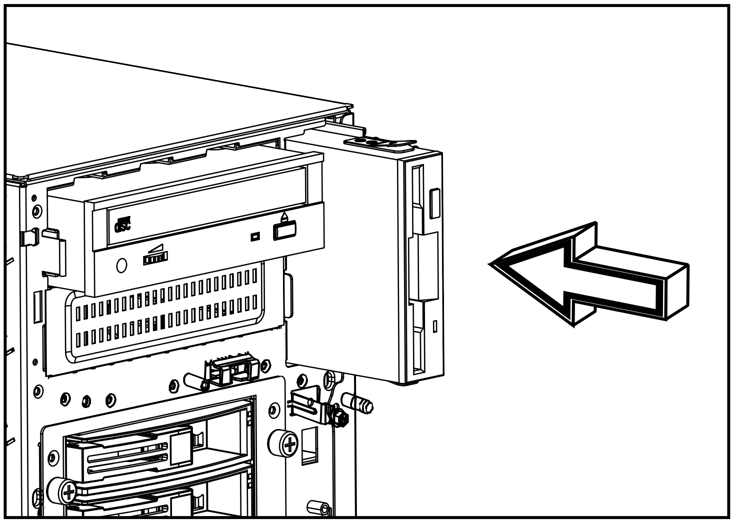
4 Remove the four screws that hold the old drive to the drive carrier then pull it out.



5 Install a new 3.5-inch drive in the drive carrier then secure it with the four screws you removed in the previous step.



6 Insert the drive carrier with the newly-installed floppy drive into the drive bay.



7 Connect the floppy drive and 4-pin power cables to the new drive.

8 Observe the post-installation instructions described on page 38.

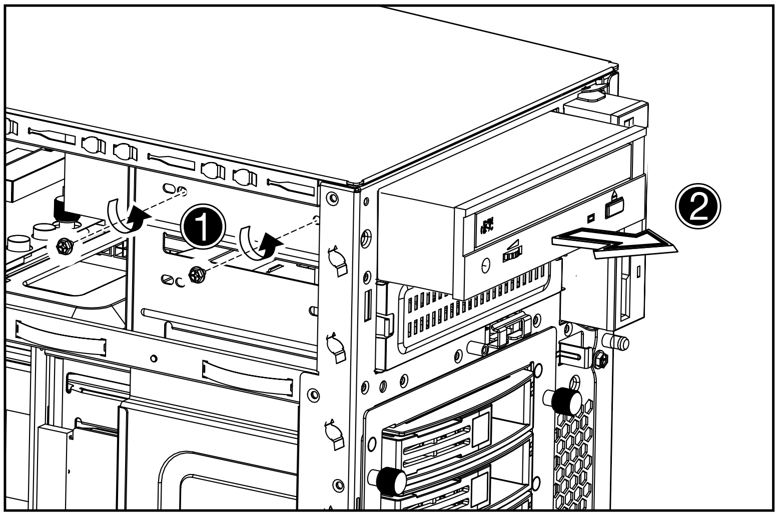
To install a 5.25-inch storage device

Note: If you are installing a new drive in an empty drive bay, skip steps 2 to 4.

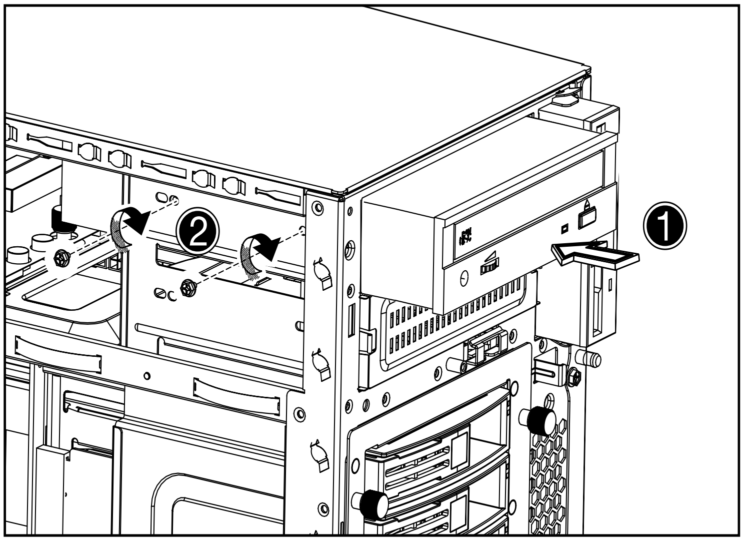
1 Observe the ESD precautions and pre-installation procedures described on page 37.

2 Disconnect the power and IDE cables from the old drive.

3 Loosen and remove the two screws from each side of the CD-ROM drive **(1)** before pulling it from the chassis **(2)**.



4 Insert the CD-ROM drive into the drive bay and secure it with the screws you removed in the previous step.



5 Connect the power and IDE cables to the new drive.

6 Observe the post-installation instructions described on page 38.

Upgrading the CPU

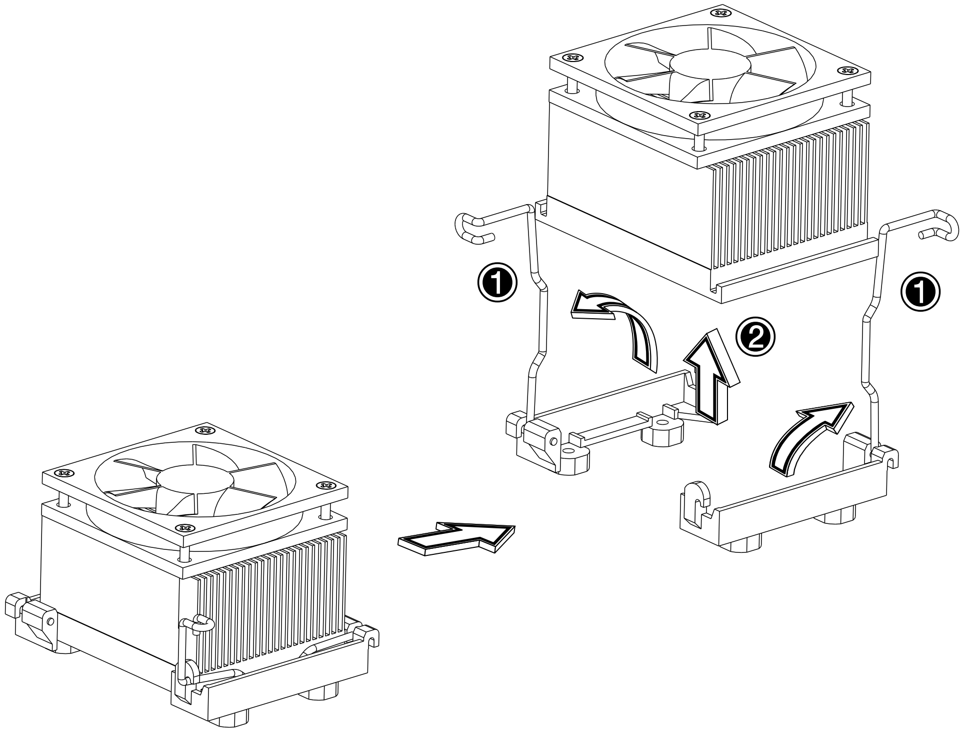
This section includes instructions for removing and installing a CPU.

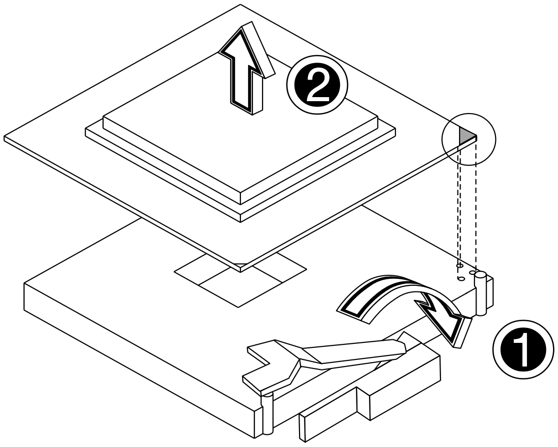
To remove a CPU with heatsink

Before installing a new CPU in a socket, remove first any previously installed CPU from that socket.

Important: Before removing a CPU from the mainboard, make sure to create a backup file of all important data.

1. Observe the ESD precautions and pre-installation procedures described on page 37.
2. Locate the CPU socket on the mainboard.
3. To detach the CPU from its socket, follow the steps below:
    (1) Depress then lift up each of the locking levers to a 90° angle.
    (2) Remove the heatsink.
    (3) Lift the CPU locking lever until it is fully extended.
    (4) Gently unseat and pull the CPU from the socket.

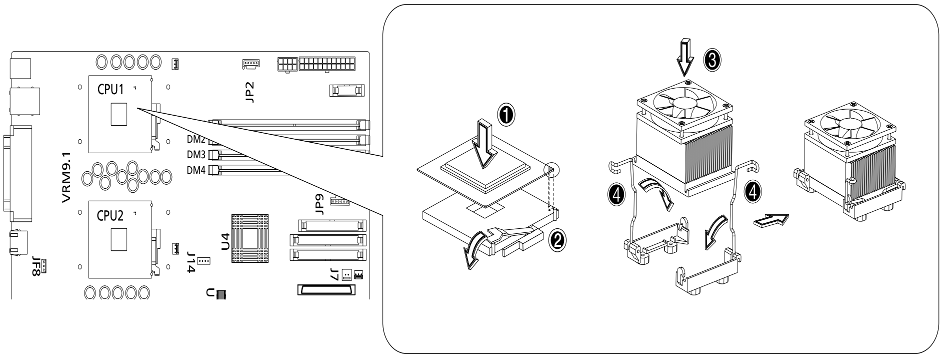




Warning! The heatsink becomes very hot when the system is on. NEVER touch the heatsink with any metal or with your hands.

Processor Sequence

If only one CPU is to be installed, it must be installed in the CPU 1 socket; if such is the case, the CPU 2 socket no longer requires a termination module. When installing multiple processors, install them in the order shown below.



To install a CPU with heatsink

1 Observe the ESD precautions and pre-installation procedures described on page 37.

2 Locate the CPU socket on the mainboard.

3 Align the CPU to its socket, making sure that pin 1 (indicated by the notched corner) of the CPU connects to hole 1 of the socket (on the bottom right corner).

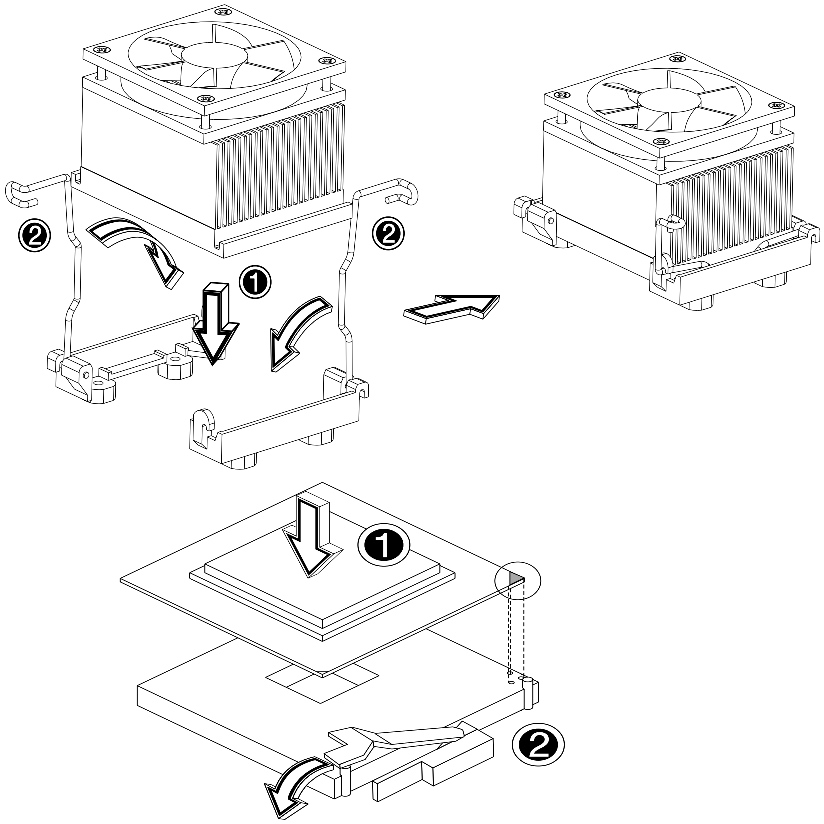
4 To install the CPU to its socket, follow the steps below:

(1) Insert the CPU into the socket.

(2) Replace the heatsink on top of the CPU.

(2) Press down the locking levers to lock the heatsink and CPU in

place.



5 Observe the post-installation instructions described on page 38.

Upgrading the system memory

This section includes instructions for removing and installing a memory module.

To remove a DIMM

Before installing a new DIMM in a socket, remove first any previously installed DIMM from that socket.

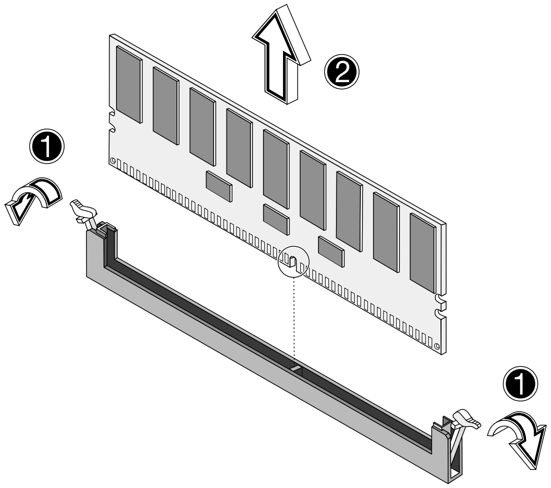
Important: Before removing any DIMM from the mainboard, make sure to create a backup file of all important data.

1 Observe the ESD precautions and pre-installation procedures described on page 37.

2 Locate the DIMM socket on the mainboard.

3 Press the holding clips on both sides of the socket outward to release the DIMM **(1)**.

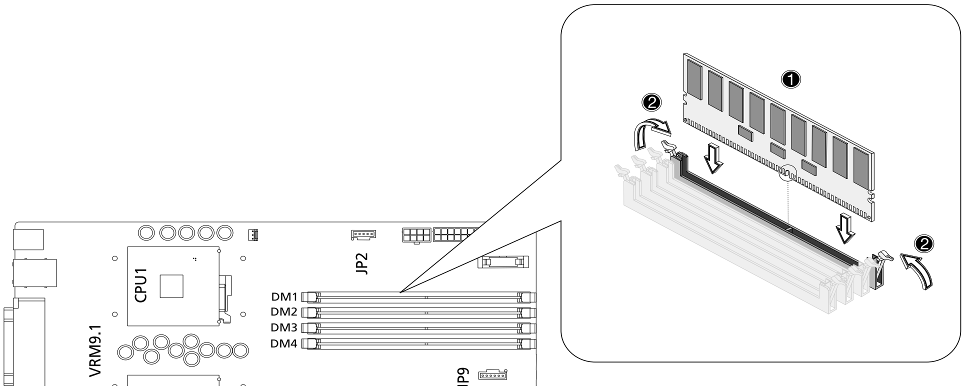
4 Gently pull the DIMM upward to remove it from the socket **(2)**.



Note: Place your forefingers on the top of the DIMM before pressing the holding clips to gently disengage the DIMM from the socket.

To install a DIMM

1. Observe the ESD precautions and pre-installation procedures described on page 37.
2. Locate the DIMM socket on the mainboard.
3. Open the clips on the socket.
4. Align then insert the DIMM into the socket **(1)**.
5. Press the holding clips inward to lock the DIMM in place **(2)**.



DIMM must be installted in the following order: DM1. DM2, DM3 and DM4

Note: The DIMM socket is slotted to ensure proper installation. If you insert a DIMM but it does not fit easily into the socket, you may have inserted it incorrectly. Reverse the orientation of the DIMM and insert it again.

6. Observe the post-installation instructions described on page 38.

Reconfiguring the system memory

The system automatically detects the amount of memory installed. Run the BIOS setup to view the new value for total system memory and make a note of it.

Installing an expansion card

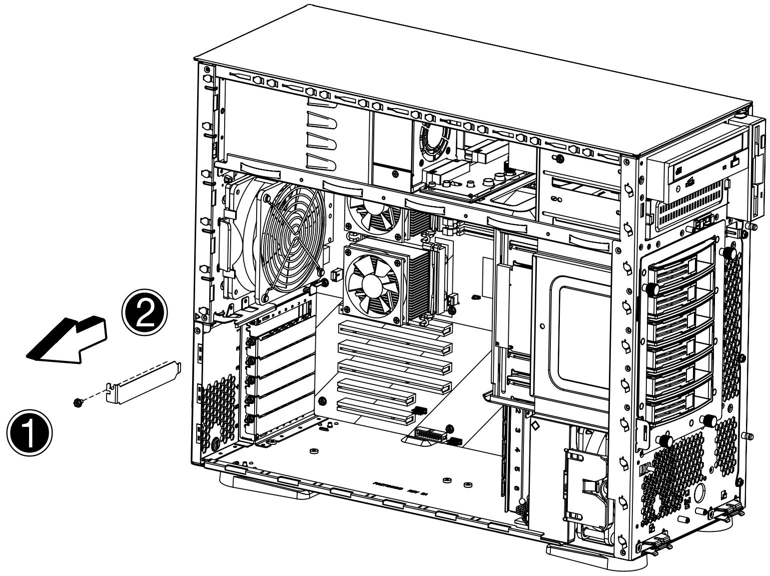
This section explains how to install an expansion card. The onboard expansion slots support PCI (Peripheral Component Interconnect) cards.

Note: The BIOS setup automatically detects and assigns resources to the new device (applicable only to Plug-and-Play expansion cards).

To install an expansion card

Note: The illustrations used in this section show the Altos G510 server chassis.

1. Observe the ESD precautions and pre-installation procedures described on page 37.
2. Locate an empty expansion slot on the mainboard.
3. Loosen the bracket screw on the rear panel.**(1)**.
4. Pull out the card bracket **(2)**.

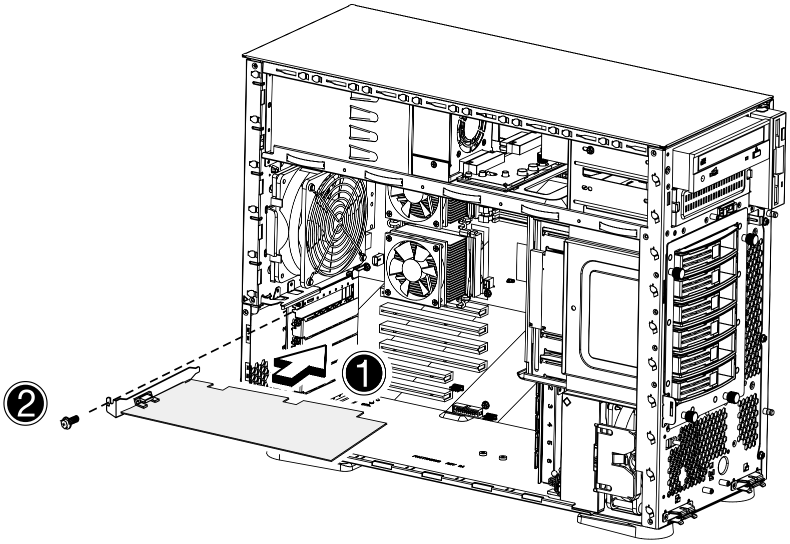


5. Remove the expansion card from its protective packaging.

6 Align the card in the empty slot on the mainboard. Make sure that the card is properly seated.

7 Insert the bracket with the card into the selected slot **(1)**.

8 Secure the card with the bracket screw removed in step 3 above **(2)**.



9 Observe the post-installation instructions described on page 38.

Installing a redundant power supply module

The Altos G510 server power subsystem consists of two hot-swappable power supply module bays that accept standard 450-watts power supply modules. The system comes bundled with only a single power supply module leaving one power supply module bay empty. You have the option to purchase an extra power supply module to provide your system with redundant power source. This power configuration enables a fully-configured system to continue running even if one power supply module fails.

Note: The redundant power source feature is only applicable to the Altos G510 model.

WARNING! To reduce the risk of personal injury or damage to the equipment, the installation of power supply modules should be referred to individuals who are qualified to service server systems and are trained to deal with equipment capable of generating hazardous energy levels.

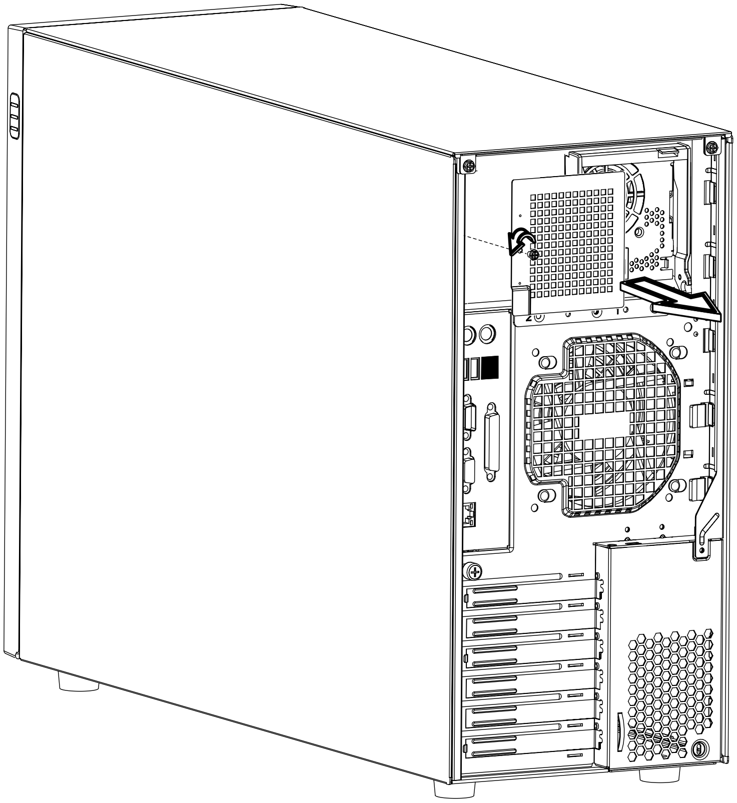
WARNING! To reduce the risk of personal injury from hot surfaces, observe the thermal labels on each power supply module. You can also consider wearing protective gloves.

WARNING! To reduce the risk of personal injury from electric shock hazards, do not open the power supply modules. There are no serviceable parts inside the module.

Caution! Electrostatic discharge can damage electronic components. Make sure that you are properly grounded before handling a power supply module.

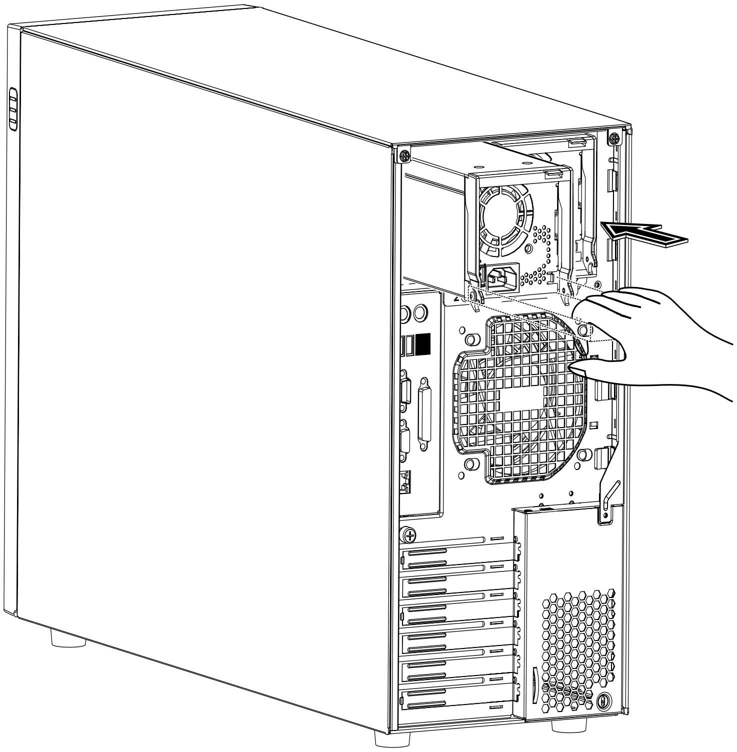
To install a redundant power supply module

1 Remove the screw securing the cover of the empty optional power supply module bay, then remove the cover.



2 Slide the redundant power supply module into the empty bay until you feel resistance.

3 Press the module handle to secure the power supply module to the bay.



4 Verify that the power indicators on both the main power supply and on the newly installed redundant power supply are illuminated (green).

4 BIOS setup

This chapter gives information about the system BIOS and discusses how to configure the system by changing the settings of the BIOS parameters.

BIOS setup

BIOS setup is a hardware configuration program built into your system's Basic Input/Output System (BIOS). Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions:

- When changing the system configuration
- When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the BIOS setup

  Note: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

BIOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM which allows configuration data to be retained when power is turned off.

Before you run BIOS setup, make sure that you have saved all open files. The system reboots immediately after you close the setup.

Entering BIOS setup

Power on the server to start the system POST (Power On Self Test) process. During bootup, press **Ctrl-Alt-Esc** to enter the BIOS setup screen.

Note: You must press **Ctrl-Alt-Esc** while the system is booting. This key combination does not work during any other time.

There are several tabs on the setup screen corresponding to the six major BIOS menus:

- Main
- Advanced
- Power
- Boot
- Security
- Exit

The parameters on the screens shown in this User's guide display default system values. These values may not be the same as those in your system.

Note the following reminders when moving around the setup screen:

- Use the **Left** and **Right** arrow keys to move to the next page or to return to the previous screen.
- Use the **Up** and **Down** arrow keys to select an item.
- Use the **+** and **-** keys to select an option.

Note: You can configure a parameter that is enclosed in square brackets. Grayed-out items have fixed settings and are not user-configurable.

- Use the **Tab** key to select a field.

- Use the **Enter** key to display a submenu screen.

  Note: When a parameter is preceded by a (**>**), it means that a submenu screen is available.

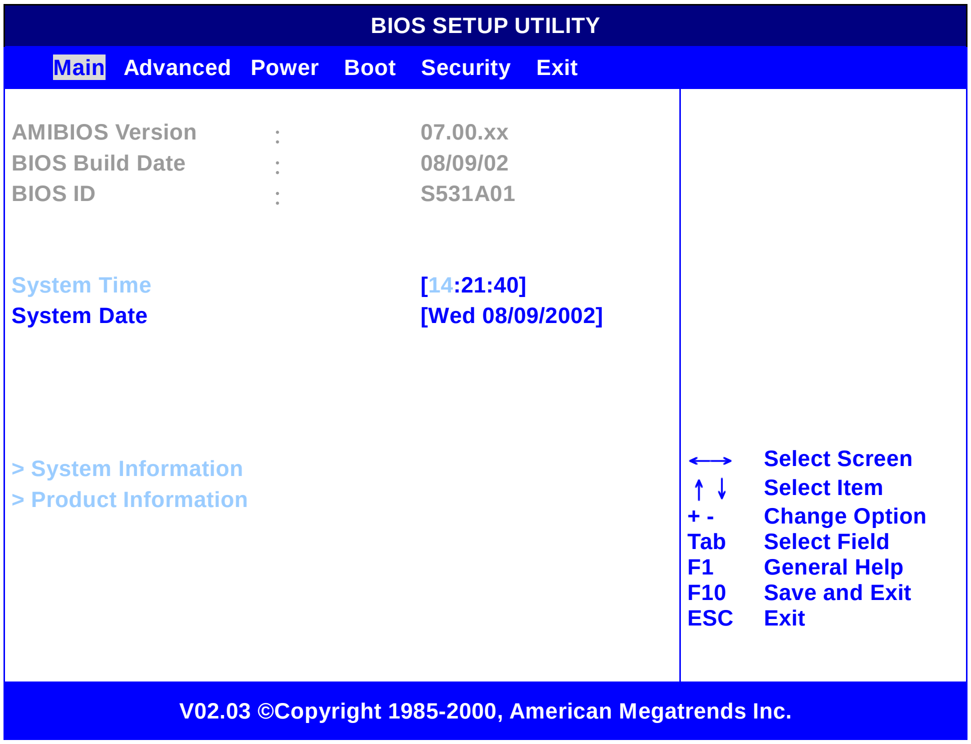
- Press **F1** for General Help on using the BIOS setup.
- Press **F10** to save changes and close the BIOS setup.
- Press **Esc** to close the BIOS setup.

In the descriptive table following each of the screen illustrations, settings in **boldface** are the default and suggested parameter settings.

Main

The Main menu displays basic and important information about the system. These information is necessary for troubleshooting and may be required when asking for technical support.

The last two parameters on the screen lets you define the system's time and date settings. The real-time clock keeps the system date and time. After setting the date and time, you do not need to enter them every time you turn on the system. As long as the internal battery remains good and connected, the clock continues to keep the date and time accurately even when the power is off.



BIOS SETUP UTILITY

AMIBIOS Version : 07.00.xx
BIOS Build Date : 08/09/02
BIOS ID : S531A01

System Time [14:21:40]
System Date [Wed 08/09/2002]

> System Information
> Product Information

←→	Select Screen
↑↓	Select Item
+ -	Change Option
Tab	Select Field
F1	General Help
F10	Save and Exit
ESC	Exit

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Parameter	Description
AMIBIOS Version	Version of the BIOS setup
BIOS Build Date	Date when the BIOS setup was created
BIOS ID	ID number of the BIOS setup

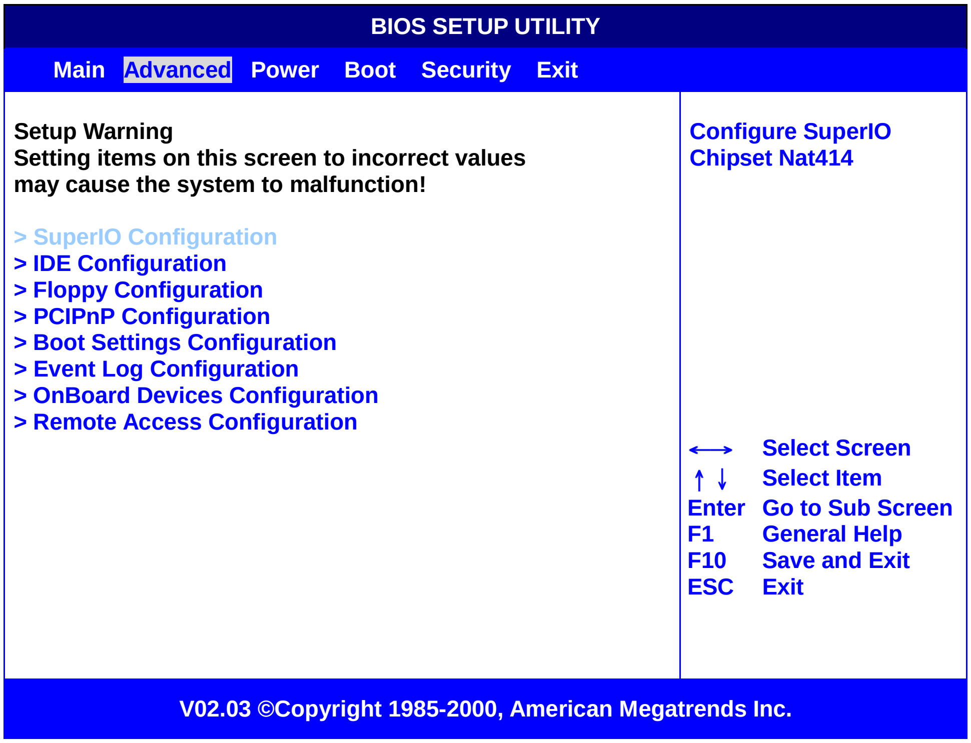
Parameter	Description
System Time	Sets the time following the hour-minute-second format. Valid values for hour, minute, and second are: Hour: 00 to 23 Minute: 00 to 59 Second: 00 to 59
System Date	Sets the date following the weekday-month-day-year format. Valid values for weekday, month, day, and year are: Weekday: Sun, Mon, Tue, Wed, Thu, Fri, Sat Month: 1to 12. Day: 1 to 31 Year: 1980 to 2079

Advanced

The Advanced menu contains parameter values that define how the system behaves on startup.

Warning! Be cautious in setting parameter values in the Advanced menu as any incorrect value may cause the system to malfunction.

Press **Enter** to enter the submenu screen of the parameters shown in the screen below.



BIOS SETUP UTILITY

Main Advanced Power Boot Security Exit

Setup Warning
Setting items on this screen to incorrect values
may cause the system to malfunction!

> SuperIO Configuration
> IDE Configuration
> Floppy Configuration
> PCIPnP Configuration
> Boot Settings Configuration
> Event Log Configuration
> OnBoard Devices Configuration
> Remote Access Configuration

Configure SuperIO
Chipset Nat414

←→	Select Screen
↑ ↓	Select Item
Enter	Go to Sub Screen
F1	General Help
F10	Save and Exit
ESC	Exit

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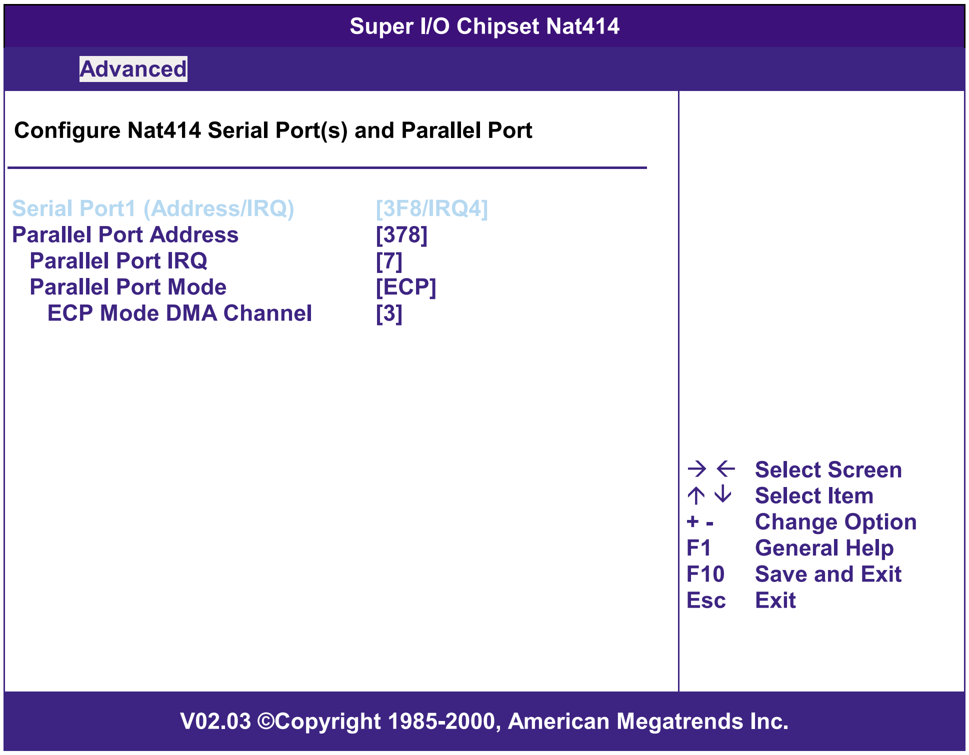
Super I/O Configuration

The Super I/O Configuration submenu lets you define the parameter settings for the system's parallel and serial ports.



Super I/O Chipset Nat414

Advanced

Configure Nat414 Serial Port(s) and Parallel Port

Serial Port1 (Address/IRQ)	[3F8/IRQ4]
Parallel Port Address	[378]
Parallel Port IRQ	[7]
Parallel Port Mode	[ECP]
ECP Mode DMA Channel	[3]

→ ←	Select Screen
↑ ↓	Select Item
+ -	Change Option
F1	General Help
F10	Save and Exit
Esc	Exit

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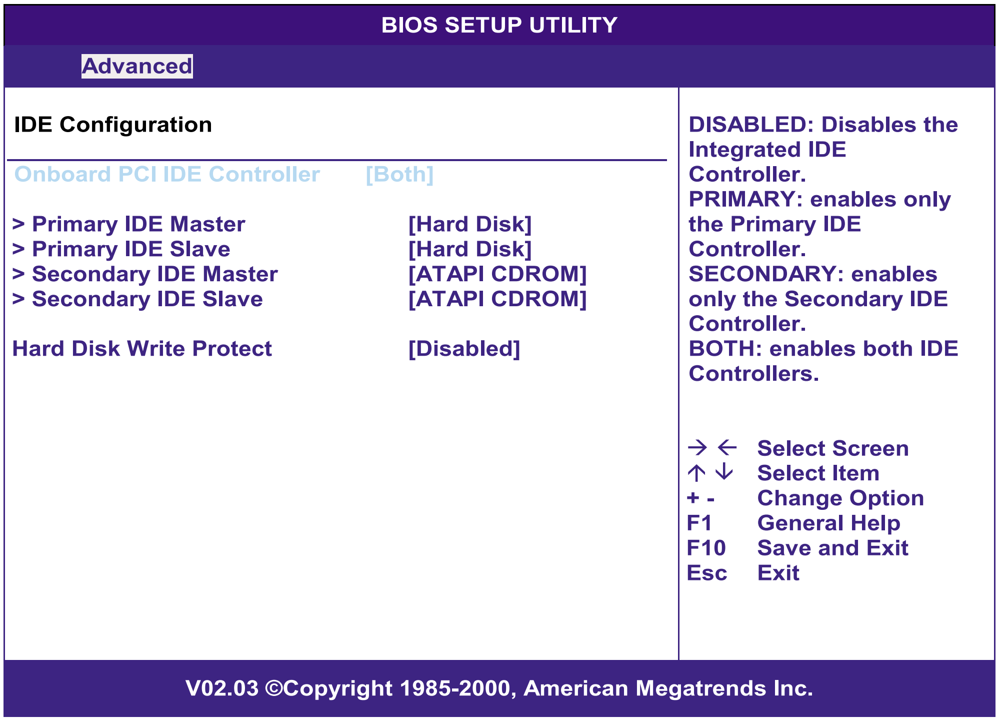
Parameter	Description
Serial Port 1 (Address/IRQ)	Serial port 1 address and IRQ (interrupt request) setting
Parallel Port Address	Sets a logical base address for the parallel port
Parallel Port IRQ	Assigns an IRQ for the parallel port. If you install an add-on card that has a parallel port whose address conflicts with the onboard parallel port, a warning appears on the screen. Check the parallel port address of the add-on card and change the address to one that does not conflict.
Parallel Port Mode	Sets the operation mode for the parallel port

Parameter	Description
ECP Mode DMA Channel	Assigns a DMA (Direct Memory Access) channel for the ECP (Extended Capabilities Port) parallel port function. This parameter is configurable only if you select ECP as the operation mode.

IDE Configuration

The IDE Configuration submenu lets you define the parameter settings related to the hard disk/s.



BIOS SETUP UTILITY

Advanced

IDE Configuration

Onboard PCI IDE Controller [Both]

> Primary IDE Master [Hard Disk]
> Primary IDE Slave [Hard Disk]
> Secondary IDE Master [ATAPI CDROM]
> Secondary IDE Slave [ATAPI CDROM]

Hard Disk Write Protect [Disabled]

DISABLED: Disables the Integrated IDE Controller.
PRIMARY: enables only the Primary IDE Controller.
SECONDARY: enables only the Secondary IDE Controller.
BOTH: enables both IDE Controllers.

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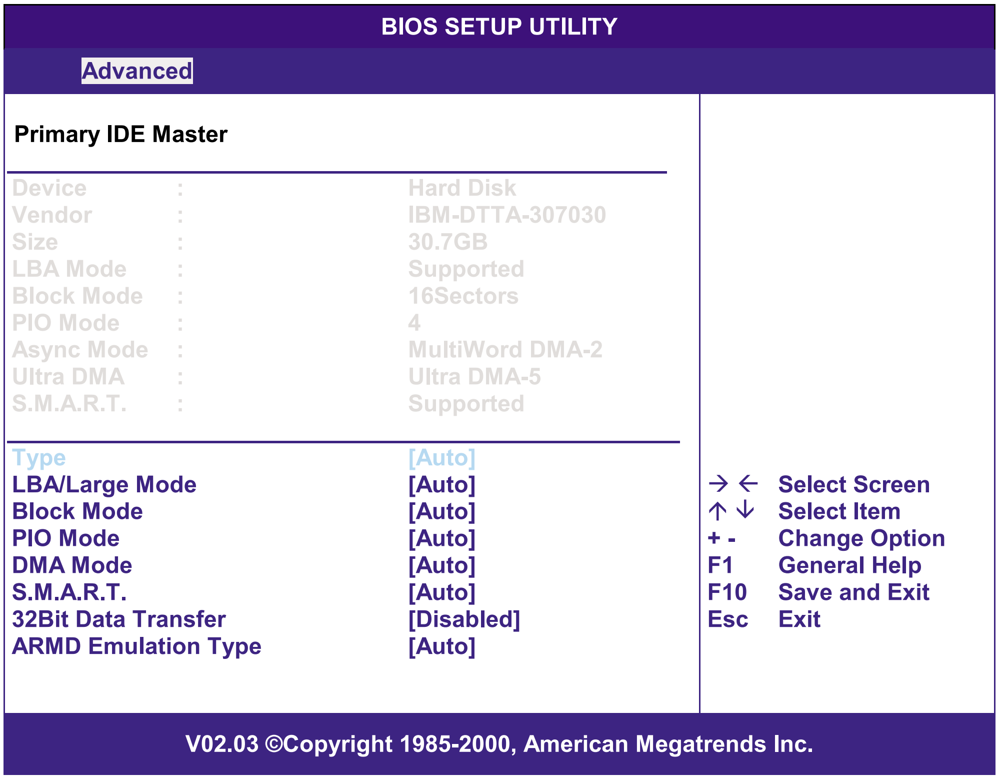
Parameter	Description
Onboard PCI IDE Controller	Selects which system IDE controller to enable
Primary IDE Master	Press **Enter** to access the Primary IDE Master submenu.
Primary IDE Slave	Press **Enter** to access the Primary IDE Slave submenu.

Parameter	**Description**
Secondary IDE Master	Press **Enter** to access the Secondary IDE Master submenu.
Secondary IDE Slave	Press **Enter** to access the Secondary IDE Slave submenu.
Hard Disk Write Protect	Enables or disables the hard disk write protect function

Primary/Secondary IDE Master/Slave

These items let you select the IDE hard disk parameters that the system supports.



```
                         BIOS SETUP UTILITY
      Advanced

 Primary IDE Master

 Device           :               Hard Disk
 Vendor           :               IBM-DTTA-307030
 Size             :               30.7GB
 LBA Mode         :               Supported
 Block Mode       :               16Sectors
 PIO Mode         :               4
 Async Mode       :               MultiWord DMA-2
 Ultra DMA        :               Ultra DMA-5
 S.M.A.R.T.       :               Supported

 Type                             [Auto]
 LBA/Large Mode                   [Auto]          → ←   Select Screen
 Block Mode                       [Auto]          ↑ ↓   Select Item
 PIO Mode                         [Auto]          + -   Change Option
 DMA Mode                         [Auto]          F1    General Help
 S.M.A.R.T.                       [Auto]          F10   Save and Exit
 32Bit Data Transfer              [Disabled]      Esc   Exit
 ARMD Emulation Type              [Auto]

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```

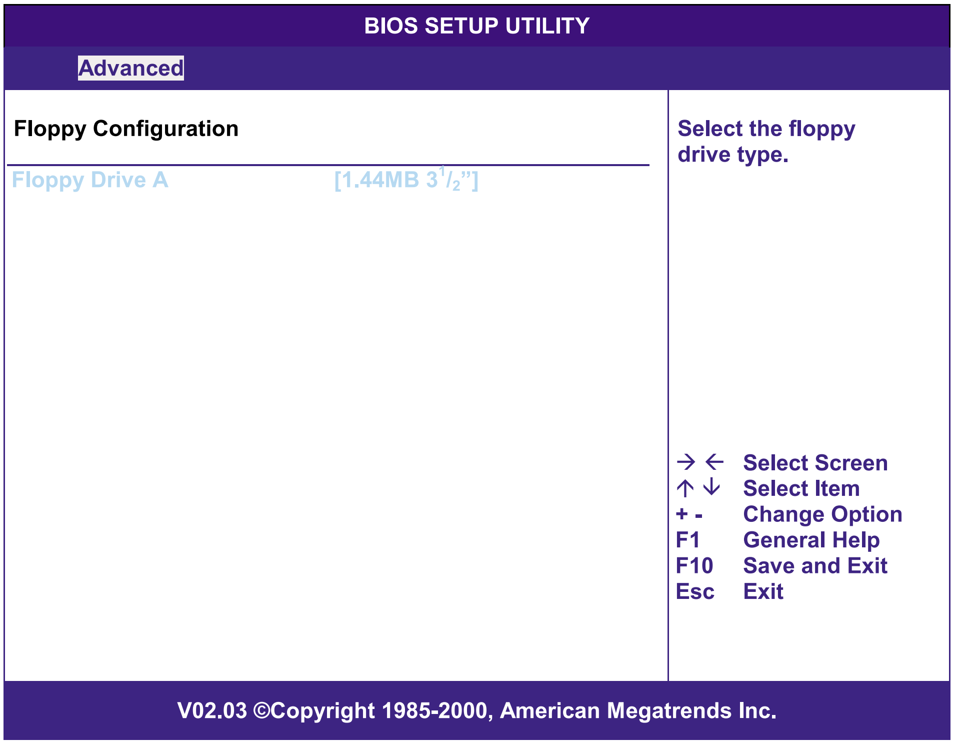
Parameter	**Description**	**Option**
Device	Type of IDE device	
Vendor	Vendor of the selected IDE device	

Parameter	Description	Option
Size	Size of the selected device	
Type	Driver type	**Auto** CD-ROM ARMD Not Installed
LBA/Large Mode	Selects the hard disk drive translation method. For drivers with more than 504 MB, the LBA mode is necessary.	**Auto** Disabled
Block Mode	Enhances disk performance depending on the hard disk in use. If you set this parameter to Auto, BIOS setup automatically detects if the installed hard disk drive supports the Block Mode function. If supported, it allows data transfer in blocks (multiple sectors) at a rate of 256 bytes per cycle. If you set this parameter to Disabled, data transfer from and to the device occurs one sector at a time.	**Auto** Disabled
PIO Mode	When set to **Auto**, BIOS setup automatically detects if the installed hard disk supports the function. If supported, it allows for faster data recovery and read/write timing that reduces hard disk activity time. This results in better hard disk performance. Mode 0 to 4 provide successive increases in performance.	**Auto** 0 1 2 3 4
DMA Mode	Selects DMA (Direct Memory Access) mode. Options include: Auto: Auto detected SWDMAn: SingleWordDMAn MWDMAn: MultiWordDMAn UDMAn: UltraDMAn	**Auto** SWDMAn MWDMAn UDMAn

Parameter	Description	Option
S.M.A.R.T	Enables or disables the S.M.A.R.T (Self-Monitoring, Analysis and Reporting Technology) function of the internal hard disk. If 'Auto' is selected, BIOS setup will enable the S.M.A.R.T function if the driver supports it.	**Auto** Disabled Enabled
32-bit Data Transfer	Enables or disables the 32-bit data transfer function	**Disabled** Enabled
ARMD Emulation Type	Selects the ARMD (ATAPI Removable Media Device) emulation type	**Auto** Floppy Hard Disk

Floppy Configuration

The Floppy Configuration submenu displays the type of floppy drive installed in the server.



BIOS SETUP UTILITY
Advanced

Floppy Configuration

Floppy Drive A [1.44MB 3$^1/_2$"]

Select the floppy drive type.

→ ← Select Screen
↑ ↓ Select Item
+ - Change Option
F1 General Help
F10 Save and Exit
Esc Exit

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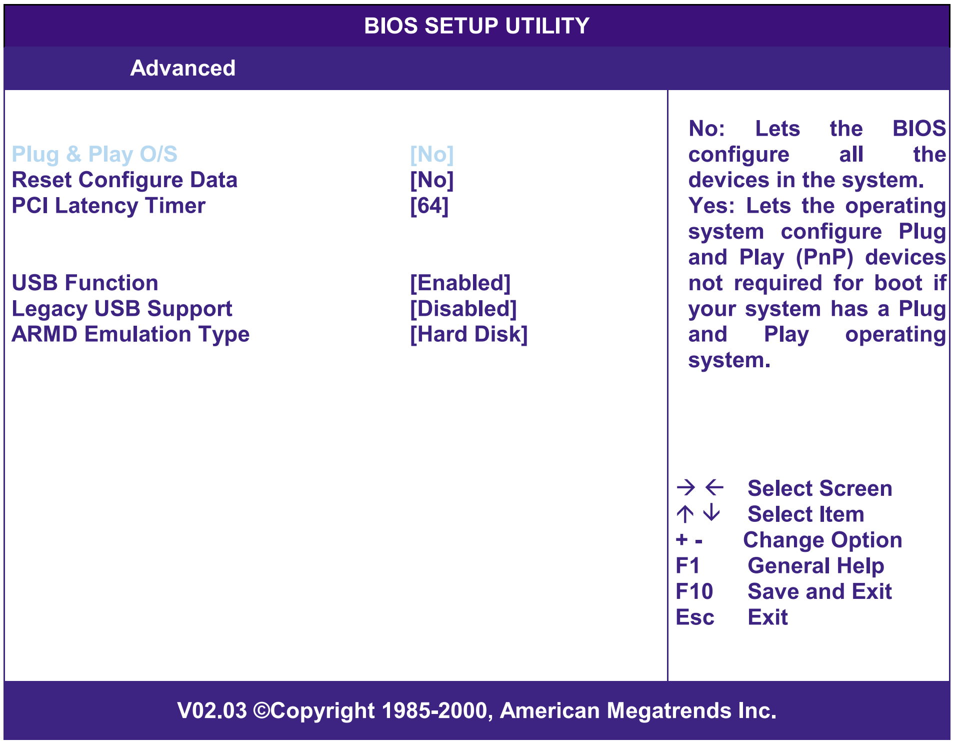
Parameter	Description	Option
Floppy Drive A	Floppy disk drive type	**1.44 MB, 3.5-inch** None

PCI/PnP Configuration

The PCI/PnP Configuration submenu lets you specify the settings for the PCI devices.



BIOS SETUP UTILITY

Advanced

Plug & Play O/S [No]
Reset Configure Data [No]
PCI Latency Timer [64]

USB Function [Enabled]
Legacy USB Support [Disabled]
ARMD Emulation Type [Hard Disk]

No: Lets the BIOS configure all the devices in the system.
Yes: Lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.

→ ← Select Screen
↑ ↓ Select Item
+ - Change Option
F1 General Help
F10 Save and Exit
Esc Exit

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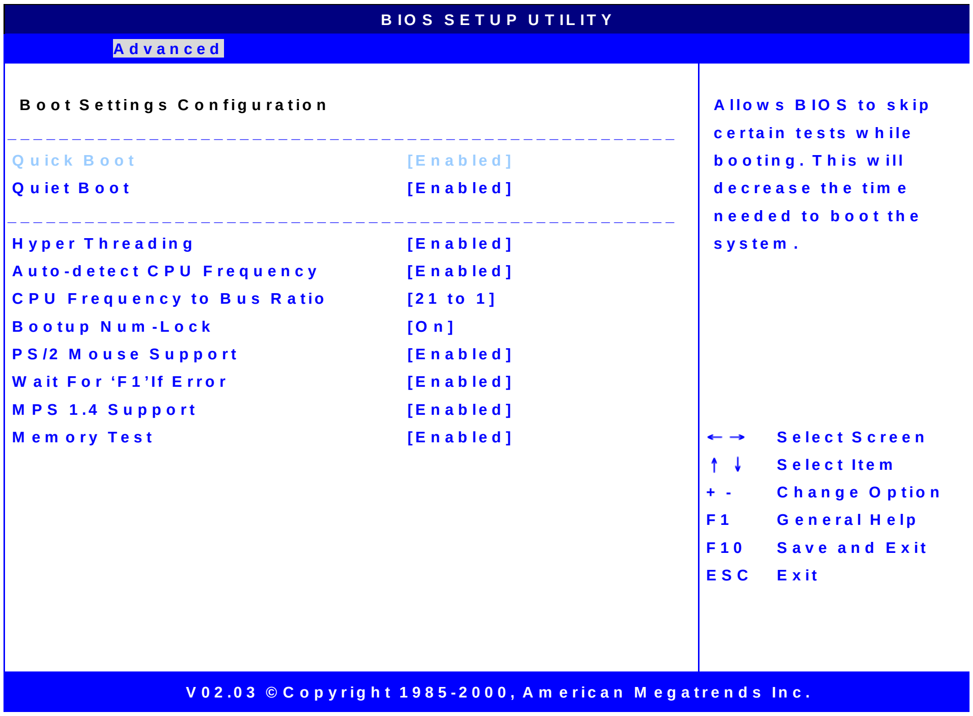
Parameter	Description	Option
Plug & Play OS	When this parameter is set to Yes, BIOS setup initializes only PnP boot devices such as SCSI cards. When set to No, the BIOS setup initializes all PnP boot and non-boot devices such as sound cards. **Note:** Set this parameter to Yes only if the operating system is Windows 95/98 or a later version.	**No** Yes

Parameter	Description	Option
Reset Configure Data	BIOS setup stores the configuration data of Plug and Play devices in NVRAM (Non-volatile Random Access Memory). When this parameter is set to Yes, current data is deleted and a new set of information is created during the next system bootup.	**No** Yes
PCI Latency Timer	Sets a timing parameter for the PCI bus.	**64**
USB Function	Enables the system's USB ports	**Enabled** Disabled
Legacy USB Support	Enable this parameter when you intend to use a USB device and are using a non-Plug and Play operating system, such as DOS.	**Disabled** Auto
ARMD Emulation Type	Selects the ARMD (ATAPI Removable Media Device) emulation type.	**Hard Disk** Auto Floppy

Boot Settings Configuration

The Boot Settings Configuration submenu lets you specify the preferred settings for system bootup.



```
                         BIOS SETUP UTILITY
         Advanced

 Boot Settings Configuration                       Allows BIOS to skip
                                                   certain tests while
 Quick Boot                    [Enabled]           booting. This will
 Quiet Boot                    [Enabled]           decrease the time
                                                   needed to boot the
 Hyper Threading               [Enabled]           system.
 Auto-detect CPU Frequency     [Enabled]
 CPU Frequency to Bus Ratio    [21 to 1]
 Bootup Num-Lock               [On]
 PS/2 Mouse Support            [Enabled]
 Wait For ‘F1’If Error         [Enabled]
 MPS 1.4 Support               [Enabled]
 Memory Test                   [Enabled]          ← →   Select Screen
                                                  ↑ ↓   Select Item
                                                  + -   Change Option
                                                  F1    General Help
                                                  F10   Save and Exit
                                                  ESC   Exit

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```

Parameter	Description	Option
Quick Boot	Allows the system to boot faster by skipping some POST routines.	**Enabled** Disabled

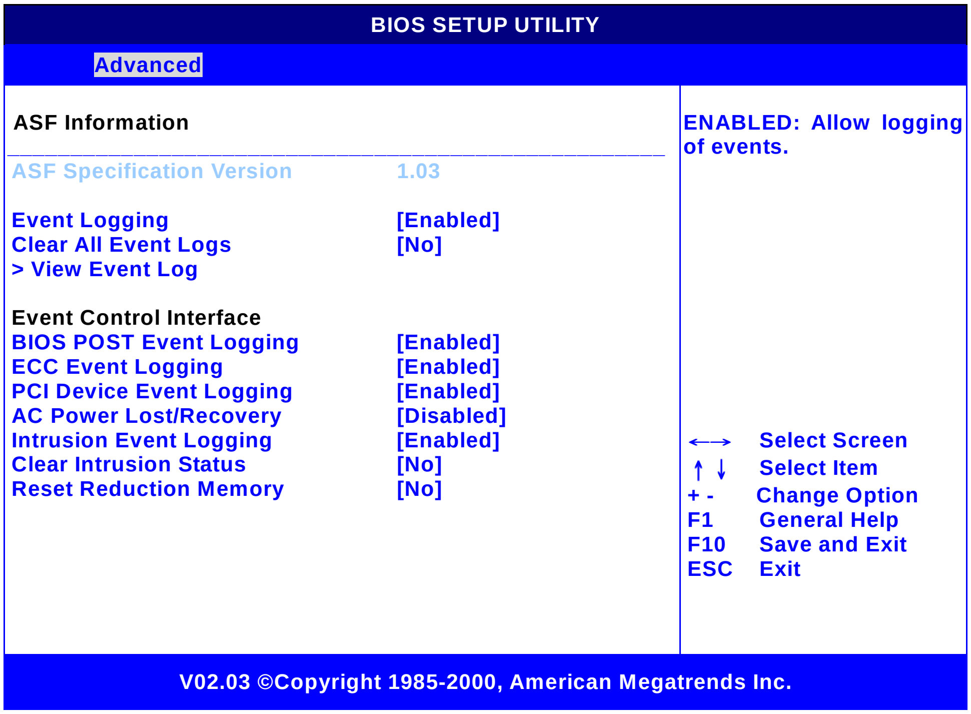
Parameter	Description	Option
Quiet Boot	Enables or disables the Quiet Boot function. When set to Enabled, BIOS setup is in graphical mode and displays only an identification logo during POST and while booting. After booting, the screen displays the operating system prompt (such as DOS) or logo (such as Windows). If any error occurs while booting, the system automatically switches to text mode. Even if your setting is Enabled, you may still switch to text mode while booting by pressing the **CTRL-ALT-ESC** key when you see the "Press CTRL-ALT-ESC key to enter setup" message on the screen. When set to Disabled, BIOS setup is in the conventional text mode where you see the system initialization details on the screen.	**Enabled** Disabled
Hyperthreading	Enable or disables the hyperthreading function of the processor. When enabled, one physical processor acts as two logical processors by "threading" two sets of data instructions in parallel streams for processing. The processor can then simultaneously manage incoming data from different applications without losing track of the data processing status of each.	**Enabled** Disabled
Auto-Detect CPU Frequency	BIOS will set the CPU optimal speed to its highest speed without re-entering BIOS Setup to load default settings.	**Enabled**
Boot up Num Lock	Activates the Num Lock function upon booting	**On** Off
CPU Frequency to Bus Ratio	CPU/bus ratio of the system. The clock speed of the bus does not necessarily equal the CPU’s. Mostly, the bus clock speed is slower than the CPU clock speed.	21 to 1
PS/2 Mouse Support	Enable this parameter if you intend to use a mouse or trackball with a PS/2 interface.	**Enabled** Disabled

Parameter	Description	Option
Wait for 'F1' if Error	When this item is enabled you will be prompted to press **F1** when an error is detected during boot up.	**Enabled** Disabled
MPS 1.4 Support	If you enable this item, the system BIOS MP table will be compatible with MultiProcessor Specification version 1.4 .	**Enabled** Disabled
Memory Test	Allows BIOS to skip certain tests while booting. Thie will dercrease the time needed to boot the system.	**Enabled** Disabled

Event Log Configuration

The Event Log Configuration submenu lets you specify the appropriate settings for the system’s event handling function.

The system event log enables you to record and monitor events that occur in the system (e.g., system temperature changes, fan stops, etc.).



```
                         BIOS SETUP UTILITY
        Advanced

 ASF Information                                 ENABLED:  Allow  logging
                                                 of events.
 ASF Specification Version      1.03

 Event Logging                  [Enabled]
 Clear All Event Logs           [No]
 > View Event Log

 Event Control Interface
 BIOS POST Event Logging        [Enabled]
 ECC Event Logging              [Enabled]
 PCI Device Event Logging       [Enabled]
 AC Power Lost/Recovery         [Disabled]
 Intrusion Event Logging        [Enabled]       ←→     Select Screen
 Clear Intrusion Status         [No]            ↑ ↓    Select Item
 Reset Reduction Memory         [No]            + -    Change Option
                                                 F1     General Help
                                                 F10    Save and Exit
                                                 ESC    Exit

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```
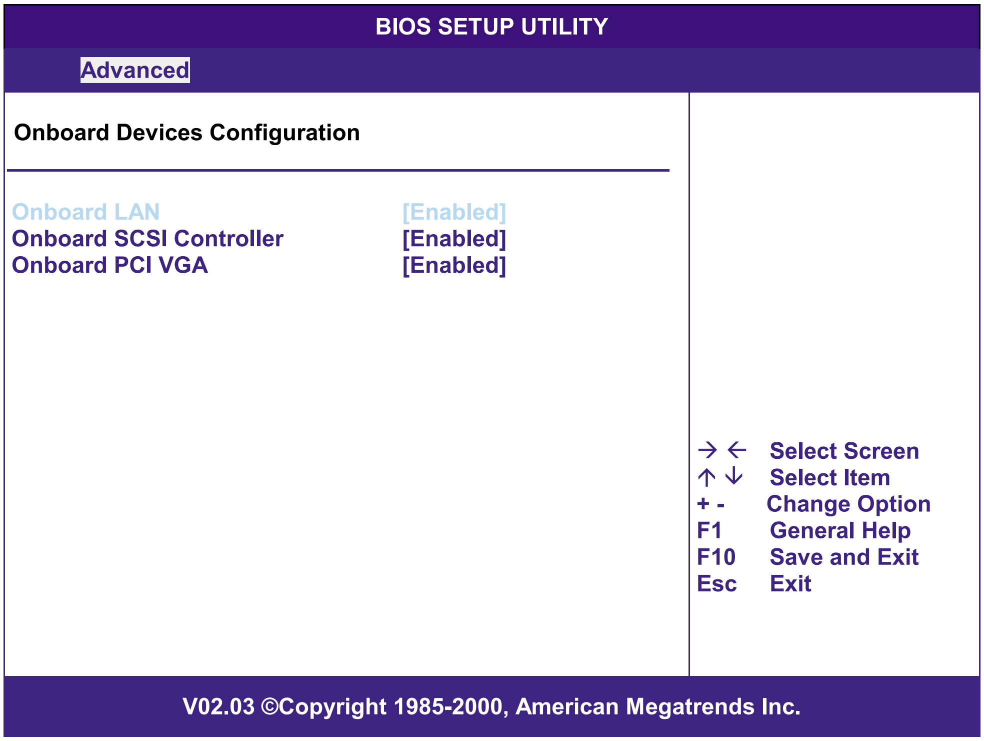

Parameter	Description	Option
ASF Specification Version	Version number of ASF	
Event Logging	Enables or disables the event logging function of the system	**Enabled** Disabled
Clear All Event Logs	When this item is set to Enabled, the event log is cleared and this parameter is set to Disabled for the next system bootup.	**No** Yes
View Event Logs	Opens the system event log file for viewing	
BIOS POST Event Logging	BIOS checks the bad processors and memory modules during the POST process. When this parameter is enabled, it will make a log of this operation.	**Enabled** Disabled

Parameter	Description	Option
ECC Event Logging	ECC (Error Correcting Code) tests the accuracy of data as it passes in and out of memory. When this parameter is enabled, single-bit and multi-bit memory errors will be recorded in the event log.	**Enabled** Disabled
PCI Device Event Logging	PCI (Peripheral Component Interconnect) is a 32-bit bus that supports a 64-bit extension for new processors, such as Pentium processors. It can run at clock speeds of 33 or 66 MHz. When this parameter is enabled, any PCI device error will be recorded in the event log.	**Enabled** Disabled
AC Power Lost/Recovery	When this parameter is enabled, any instance of AC power lost will be monitored and logged in the event log.	**Disabled** Enabled
Intrusion Event Logging	Allow logging of chassis intrusion events.	**Enabled**
Clear Intrusion Status	Clear chassis intrusion status on next Boot.	**Yes** No
Reset Reduction Memory	When this parameter is enabled, only the the system's healthy memory size is displayed during the POST process.	**No** Yes

Onboard Devices Configuration

The Onboard Devices Configuration submenu lets you specify settings that are related to the system hardware.



BIOS SETUP UTILITY
Advanced

Onboard Devices Configuration

```
Onboard LAN                   [Enabled]
Onboard SCSI Controller       [Enabled]
Onboard PCI VGA               [Enabled]
```

→ ← Select Screen
↑ ↓ Select Item
+ - Change Option
F1 General Help
F10 Save and Exit
Esc Exit
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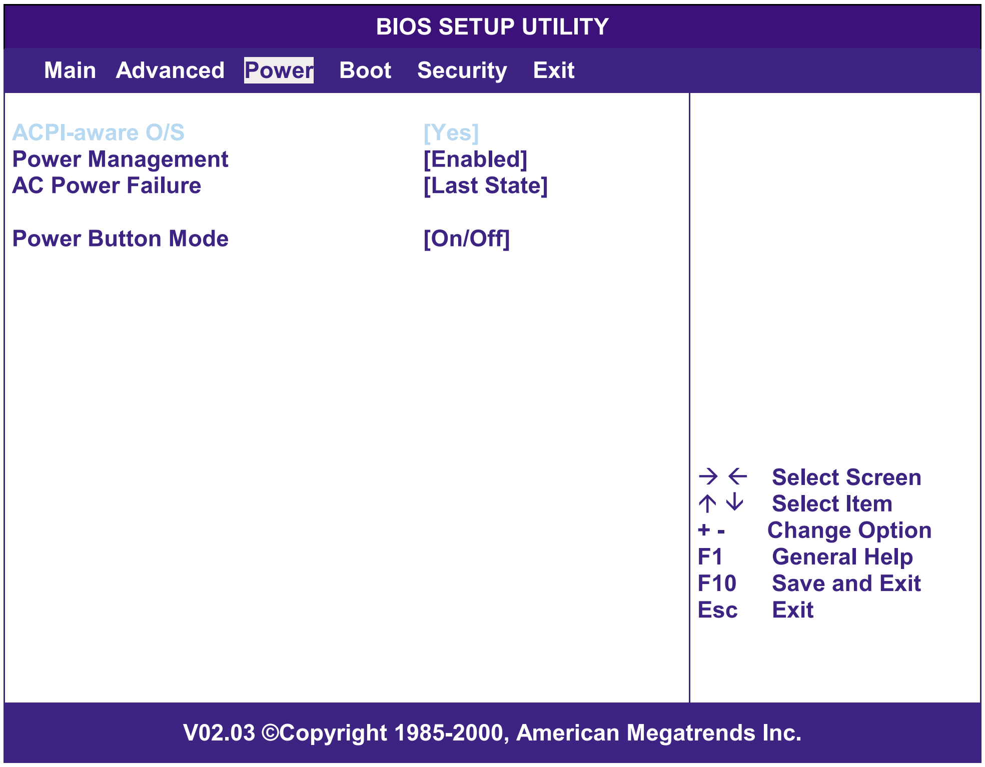
Parameter	Description	Option
Onboard LAN	Enables or disables the onboard LAN controller	**Enabled** Disabled
Onboard SCSI Controller	Enables or disables the onboard SCSI controller	**Enabled** Disabled
Onboard PCI VGA	Enables or disables the onboard PCI VGA controller	**Enabled** Disabled

Power

The Power menu allows you to configure the system's power management feature.


BIOS SETUP UTILITY
Main
Advanced
Power
Boot
Security
Exit

ACPI-aware O/S [Yes]
Power Management [Enabled]
AC Power Failure [Last State]

Power Button Mode [On/Off]

→ ← Select Screen
↑ ↓ Select Item
+ - Change Option
F1 General Help
F10 Save and Exit
Esc Exit

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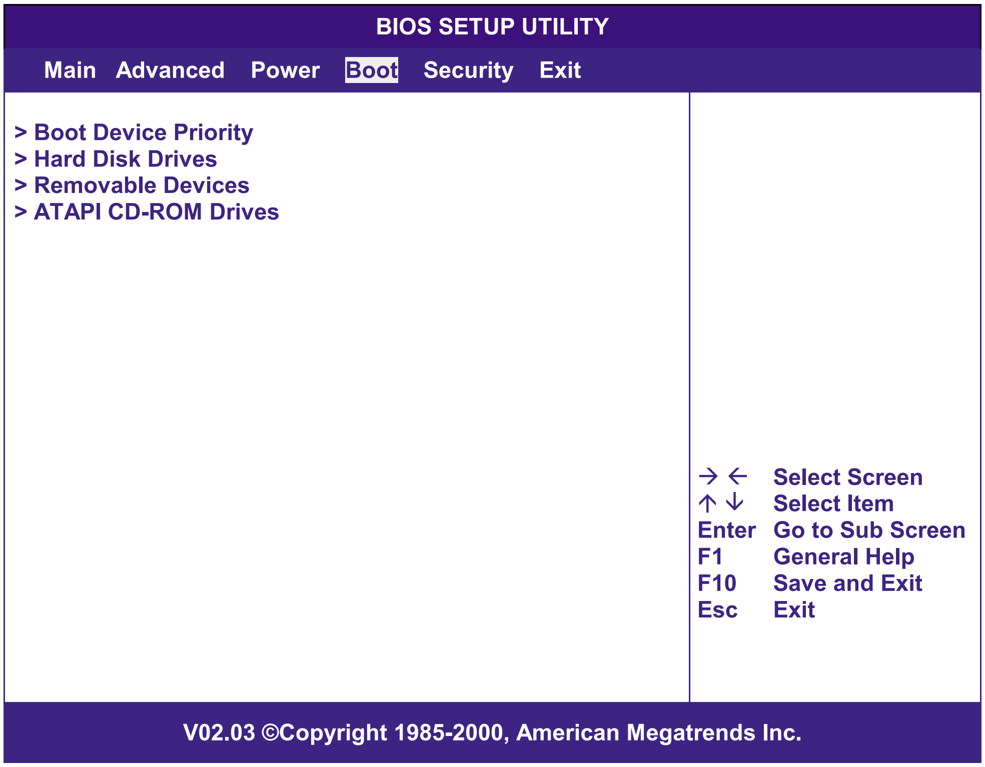
Parameter	Description	Option
ACPI-aware O/S	This parameter indicates whether the system's OS support the ACPI (Advanced Configuration and Power Interface) standard of power management.	**Yes** No
Power Management	When this parameter is enabled, it allows some OS, such as Windows 95/98, to implement APM (Advanced Power Management) functions.	**Enabled** Disabled

Parameter	Description	Option
AC Power Failure	Defines the power state to resume to after a system shutdown that is due to an interruption in AC power. When set to Last State, the system will return to the active power state prior to shutdown. When set to Stay Off, the system remains off after power shutdown.	**Last State** Stay Off
Power Button Mode	When set to On/Off, the power button serves as a standard on/off button. When set to Suspend, pressing the power button will activate the power-saving suspend mode.	**On/Off** Suspend

Boot

The Boot menu allows you to specify the preferred settings during system bootup.

Press **Enter** to enter the submenu screen of the parameters shown in the screen below.



BIOS SETUP UTILITY

Main Advanced Power Boot Security Exit

> Boot Device Priority
> Hard Disk Drives
> Removable Devices
> ATAPI CD-ROM Drives

→ ← Select Screen
↑ ↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
Esc Exit

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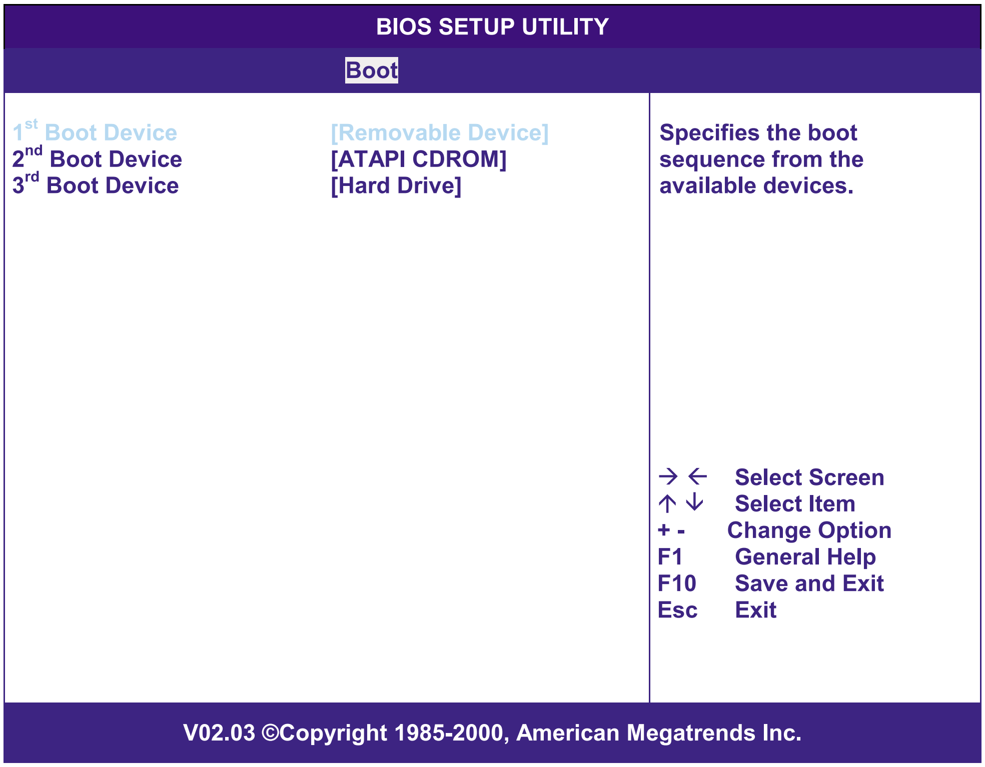
Boot Device Priority

The Boot Device Priority submenu lets you specify the boot search sequence during the POST process.

BIOS setup will display an error message if the drive(s) specified is not bootable.



```
                          BIOS SETUP UTILITY
                                 Boot

1st Boot Device        [Removable Device]    Specifies the boot
2nd Boot Device        [ATAPI CDROM]         sequence from the
3rd Boot Device        [Hard Drive]          available devices.




                                             → ←   Select Screen
                                             ↑ ↓   Select Item
                                             + -   Change Option
                                             F1    General Help
                                             F10   Save and Exit
                                             Esc   Exit

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```
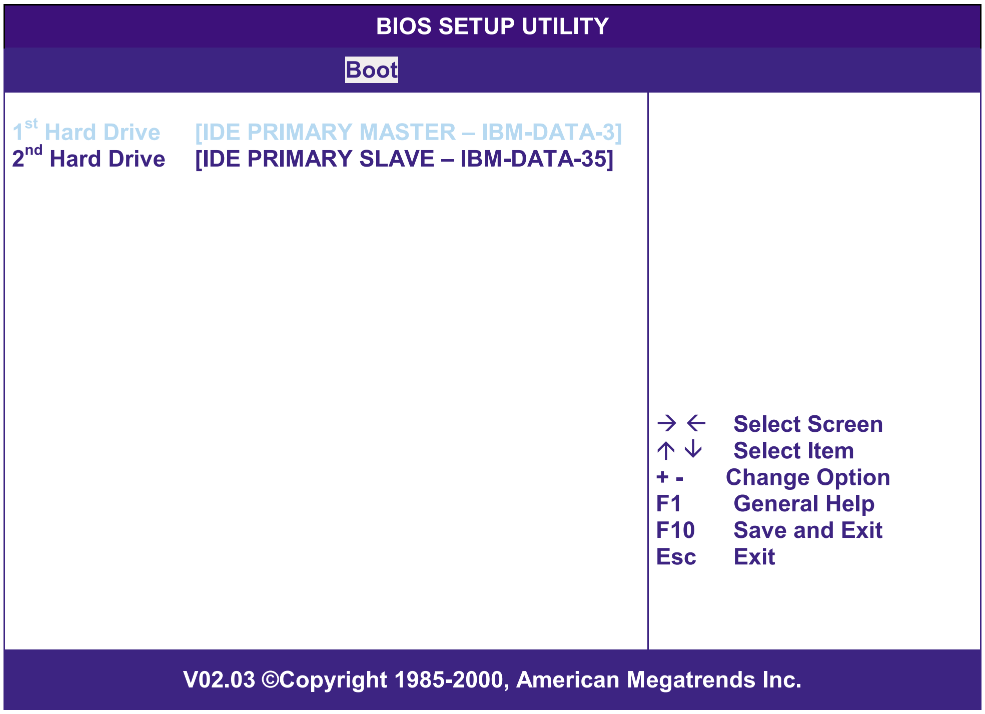

Parameter	Description
1st Boot Device	Sets the device from which the system will first attempt to boot up.
2nd Boot Device	Sets the device from which the system will attempt to boot up when the first attempt failed.
3rd Boot Device	Sets the device from which the system will attempt to boot up when the first and second attempts failed.

Hard Disk Drives

The Hard Disk Drives submenu lets you specify the devices that will be considered as the primary and secondary hard drives.


BIOS SETUP UTILITY
Boot
→ ← Select Screen
↑ ↓ Select Item
+ - Change Option
F1 General Help
F10 Save and Exit
Esc Exit

1st Hard Drive [IDE PRIMARY MASTER – IBM-DATA-3]
2nd Hard Drive [IDE PRIMARY SLAVE – IBM-DATA-35]

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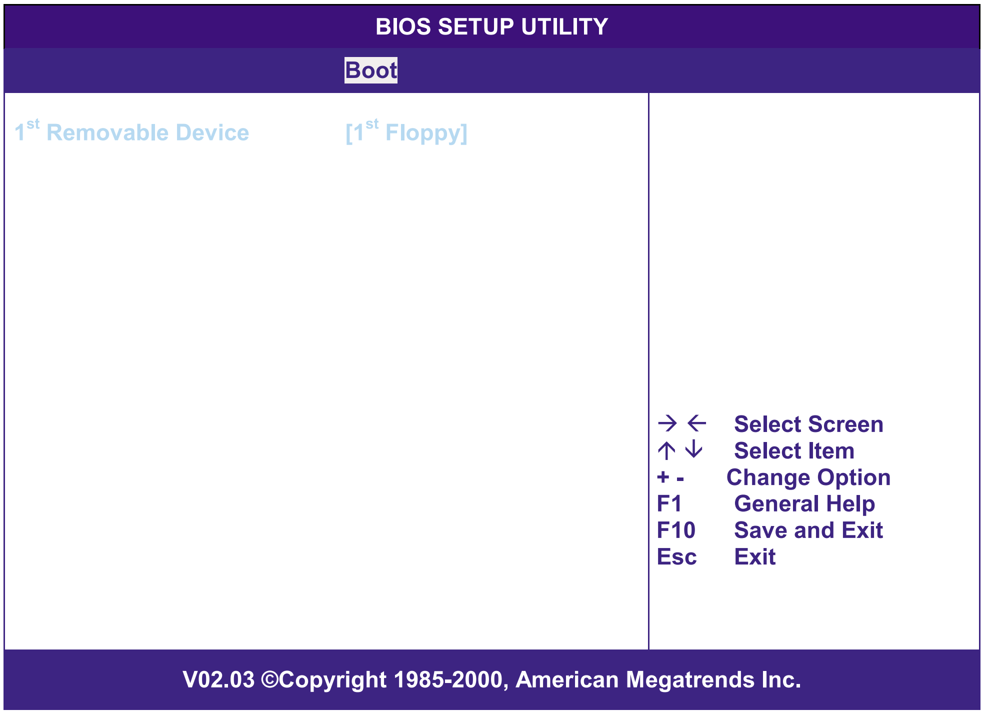
Parameter	Description
1st Hard Drive	Sets the device to be considered the primary hard drive.
2nd Hard Drive	Sets the device to be considered the secondary hard drive.

Removable Devices

The Removable Devices submenu displays the type of removable devices available in the system.



BIOS SETUP UTILITY

Boot

1st Removable Device [1st Floppy]

→ ←	Select Screen
↑ ↓	Select Item
+ -	Change Option
F1	General Help
F10	Save and Exit
Esc	Exit

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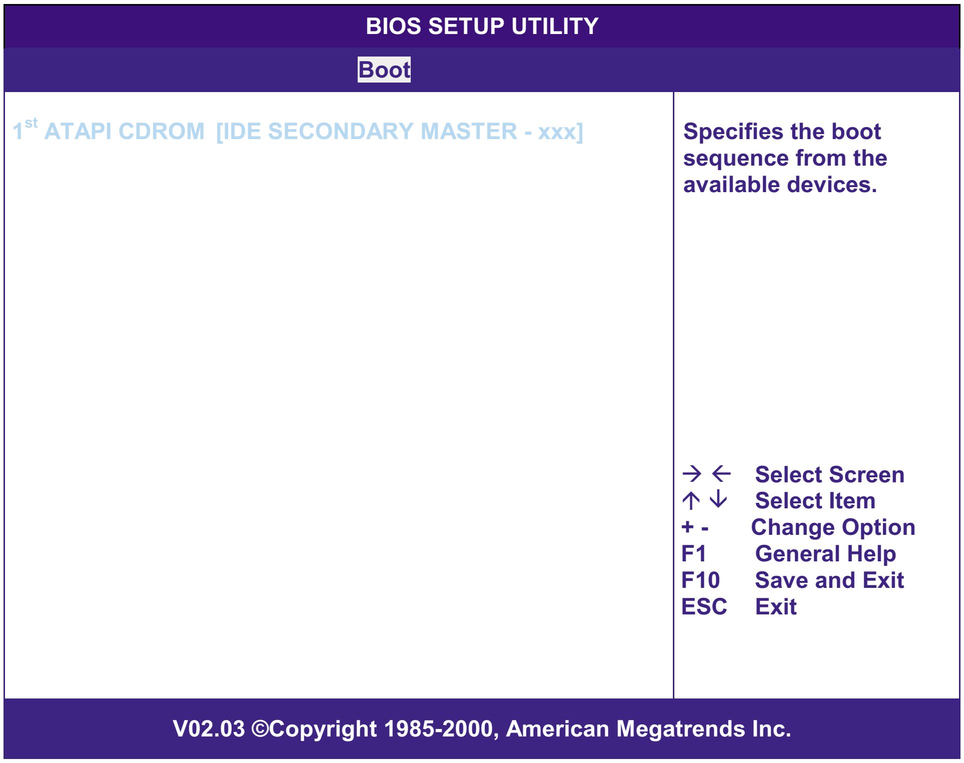
ATAPI CD-ROM Devices

The ATAPI (Advanced Technology Attachment Packet Interface) CD-ROM submenu displays the type of ATAPI CD-ROM available in the system.



1st ATAPI CDROM [IDE SECONDARY MASTER - xxx]

Specifies the boot sequence from the available devices.

→ ←	Select Screen
↑ ↓	Select Item
+ -	Change Option
F1	General Help
F10	Save and Exit
ESC	Exit

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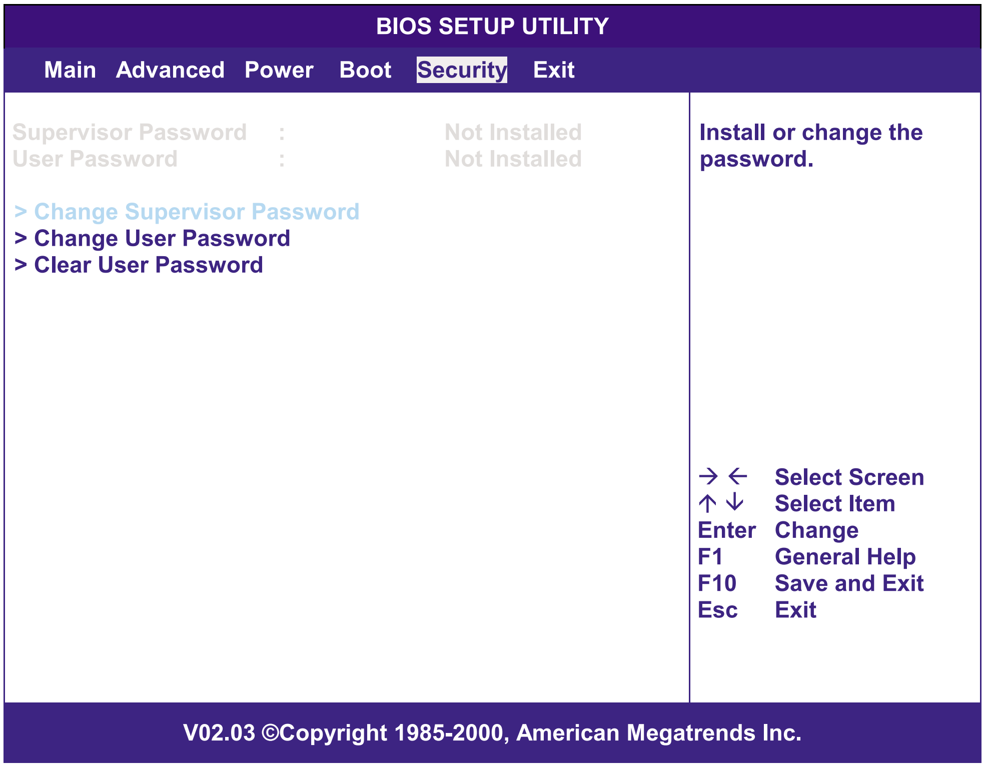
Security

The Security menu allows you to safeguard and protect the system from unauthorized use by setting up access passwords.



Supervisor Password : Not Installed
User Password : Not Installed

> Change Supervisor Password
> Change User Password
> Clear User Password

Install or change the password.

→ ←	Select Screen
↑ ↓	Select Item
Enter	Change
F1	General Help
F10	Save and Exit
Esc	Exit

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Parameter	Description	Option
Supervisor Password	Prevents unauthorized access to the BIOS setup	**Not Installed** Installed
User Password	Secures your system against unauthorized use. Once you set this password, you have to type it whenever you boot the system. User password is available only when a Supervisor password is set.	**Not Installed** Installed
Change User Password	Press **Enter** to change the User password.	
Change Supervisor Password	Press **Enter** to change the Supervisor password.	

Parameter	Description	Option
Clear User Password	Press **Enter** to remove the User password.	

To set a Supervisor/User password

1 Use the up/down keys to highlight a password parameter (Supervisor Password or User Password) then press **Enter**.

A password box will appear.

2 Type a password then press **Enter**.

The password may consist of up to six alphanumeric characters (A-Z, a-z, 0-9).

3 Retype the password to verify the first entry then press **Enter** again.

After setting the password, the system automatically sets the chosen password parameter to Installed.

To change the Supervisor/User password

1 Use the up/down keys to highlight either change password parameters (Change Supervisor Password or Change User Password) then press **Enter**.

2 Type the original password then press **Enter**.

3 Type a new password then press **Enter**.

4 Retype the password to verify the first entry then press **Enter** again.

To remove the User password

1 Use the up/down keys to highlight the Clear User Password parameter then press **Enter**.

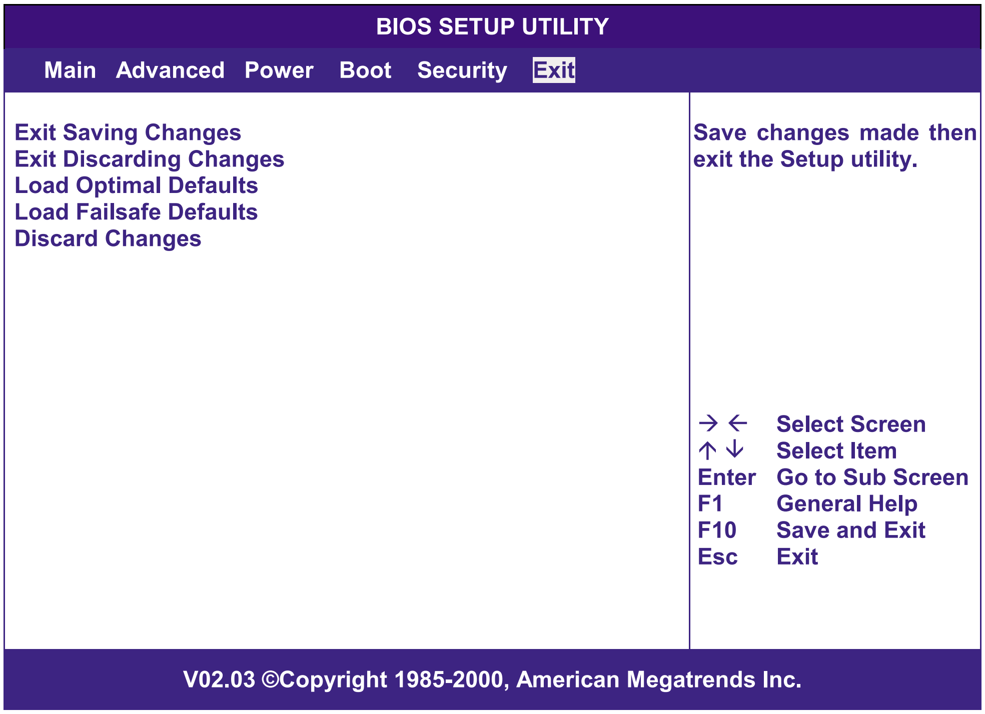
2 Enter the current password then press **Enter**.

3 Press **Enter** twice without entering anything in the new and confirm password fields.

After doing this, the system automatically sets the User password parameter to Not Installed.

Exit

The Exit menu displays the various options to quit from the BIOS setup. Highlight any of the exit options then press **Enter**.



BIOS SETUP UTILITY

Main Advanced Power Boot Security Exit

Exit Saving Changes
Exit Discarding Changes
Load Optimal Defaults
Load Failsafe Defaults
Discard Changes

Save changes made then exit the Setup utility.

→ ← Select Screen
↑ ↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
Esc Exit

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Parameter	Description
Exit Saving Changes	Saves changes made and close the BIOS setup
Exit Discarding Changes	Discards changes made and close the BIOS setup
Load Optimal Defaults	Loads the optimal settings for all BIOS setup parameters. Optimal settings are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly.

Parameter	Description
Load Failsafe Defaults	Loads the failsafe settings for all BIOS parameters. Failsafe settings, compared to the optimal settings, are not quite as demanding in terms of resources consumption so you can be sure to have a stable system performance even if you are using low-grade components.
Discard Changes	Discards all changes made on the BIOS setup.

Appendix A: ASM Quick Installation Guide

This appendix shows you how to install the ASM software package.

Installing ASM

Acer Server Manager (ASM) consists of the ASM Console and the ASM Agent. These two components are both required to perform server management tasks.

System requirements

ASM requires TCP/IP connectivity between the ASM Console and the ASM Agent.

ASM Agent

- Altos Server System
- Min. of 128 MB RAM
- SCSI/IDE hard drive with at least 100 MB free hard disk space
- Microsoft Windows NT 4.0 or Windows 2000 Server/Advanced Server operating system

ASM Console

- Intel Pentium III (500 MHz) or higher processor
- 128 MB of RAM
- SCSI/IDE hard drive with at least 100 MB free hard disk space
- Microsoft Windows 2000 Professional/XP/Server/Advanced Server operating system
- Ethernet card

System setup

Make sure that your system meets the requirements listed above before proceeding. You may also want to change your screen to 800 x 600 resolution or higher for optimum viewing.

Installing ASM Agent

To install ASM Agent:

1. Log in to the managed server using the Administrator account.
2. Insert the EasyBUILD™ Management CD into the server’s CD-ROM drive.

   The installation sequence will automatically be displayed.
3. Select the option for ASM installation.

   The installation wizard will be initialized.
4. Follow all onscreen instructions to complete installation.

   For detailed instructions on installing ASM Agent, refer to the ASM User’s manual.

To launch the program, on the Windows taskbar click on the **Start** button, point to **Programs**, select **Acer Server Management Suite** then click **ASM Agent**.

Installing ASM Console

To install ASM Console:

1. Log in to the target Windows-based PC using the Administrator account.
2. Insert the EasyBUILD™ Management CD into the computer’s CD-ROM drive.

   The installation sequence will automatically be displayed.
3. Select the option for ASM installation.

   The installation wizard will be initialized.
4. Follow all onscreen instructions to complete installation.

   For detailed instructions on installing ASM Console, refer to the ASM User’s manual.

To launch the program, on the Windows taskbar click on the **Start** button, point to **Programs**, select **Acer Server Management Suite** then click **ASM Console**.

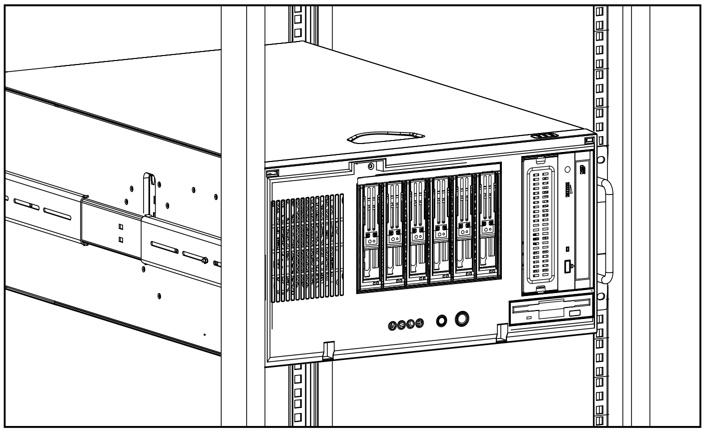
Appendix B: Altos G510 Rack Installation Guide

This appendix shows you how to install the optional rack mount kit for Acer Altos G510.

System rack installation

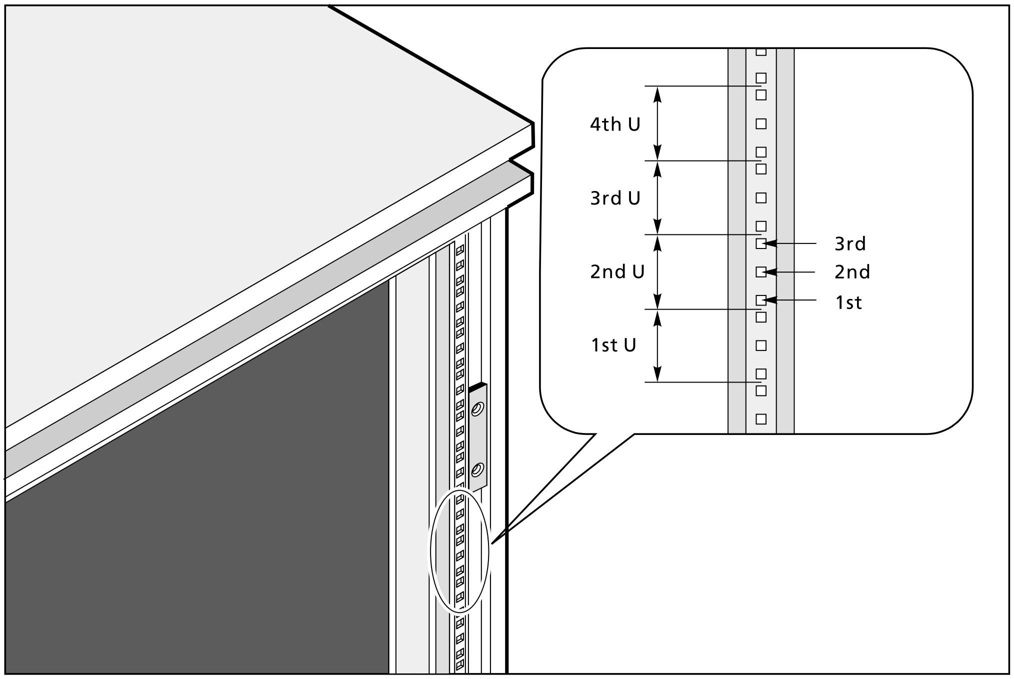
Aside from its tower configuration, the Altos G510 server system can also be mounted in a rack-model position. A rack mount kit is available for customers who want to mount a server tower system in a server rack. To purchase a rack mount kit, contact your local Acer representative or order directly from Acer.com.

The figure below shows the Altos G510 mounted in as a rack server



Vertical mounting hole pattern

The four vertical rails of a rack contain mounting holes arranged in a manner shown in the figure below:



The system occupies 5U in the rack. Count the U positions and hole numbers from the bottom up.

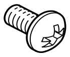
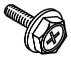
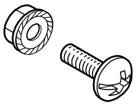
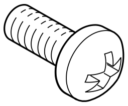
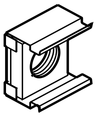
Note: The unit of measurement used in this document is "U" (1U = 1.75 inches or 44.45 mm). The total sum of the heights of all components in the rack measured in "U" cannot exceed the height of the rack. For more information, refer to the documentation that came with your system rack.

The distance from the center of two holes with closer spacing to the center of the next pair is equivalent to 1U.

When installing components, you must start your measurement from the center of the two holes with closer spacing. Otherwise, the screw holes on the component may not match those on the rack.

Screw types for rack installation

The following screws are used in the mounting process for the Acer Altos G510 and other rack-mount components.

	Screw type	**Figure**	**Usage**
1	#8-32 x 0.25 inch		Securing the inner mounting rails to the server
2	Hex head #6-32 0.25 inch		Attaching the side handles to the server
3	M4 x L8 M4 nut		Securing the mounting brackets to the inner sliding piece
4	M6 x L10		Securing the cable carrier and the mounting rails to the rack
	Cage nut		Supports the M6 metal screws for securing server components to the rack

Installing the system into the rack

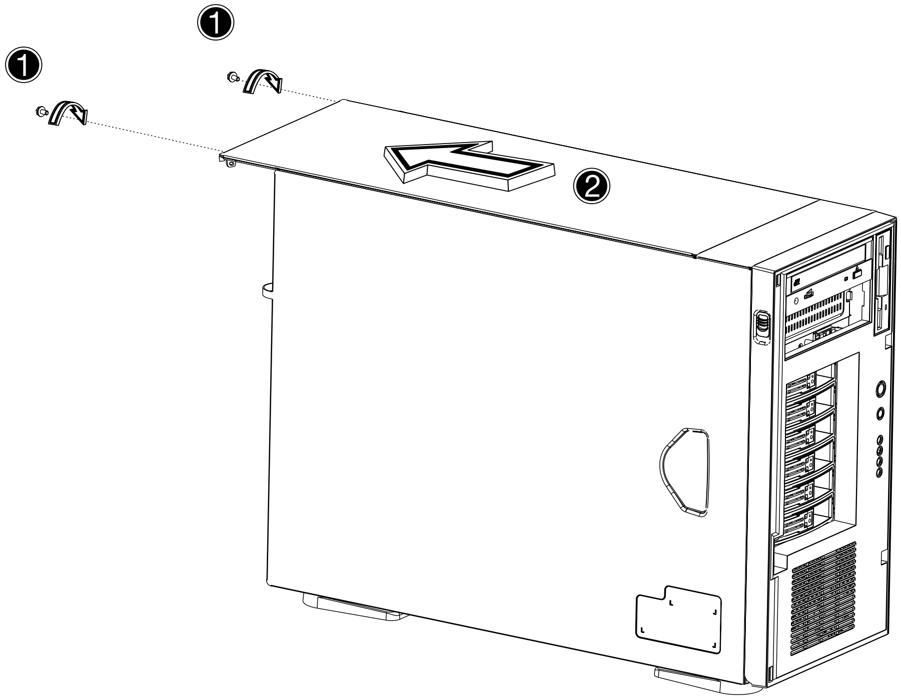
To install the system into the rack:

1 Remove the front bezel from the server. Refer to page 40 for detailed instructions.

2 Remove the top panel of the server.

   (1) Remove the two rear screws that secure the top panel to the chassis.

   (2) Slide the top panel backward to detach it from the chassis.

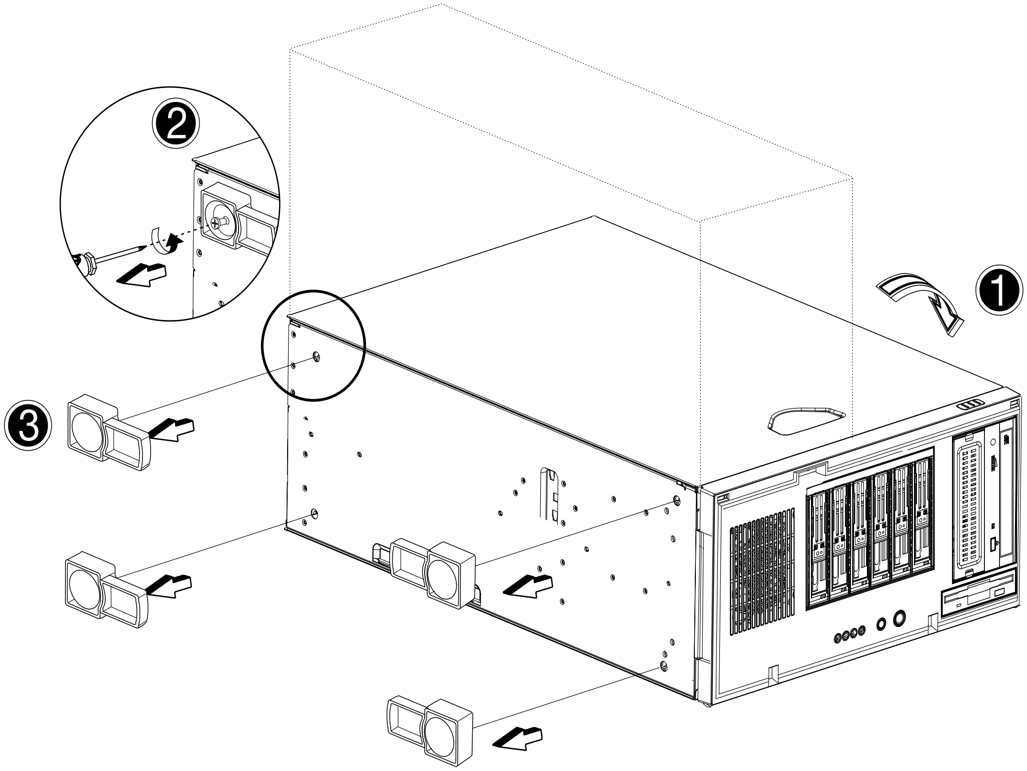


3 Remove the stands from the server.

   (1) Lay the server on its side on a flat, stable surface.

   (2) Remove the single screw from the center of each of the server’s four stands. Keep these for later use.

(3) Gently twist and pull the stands from the server.



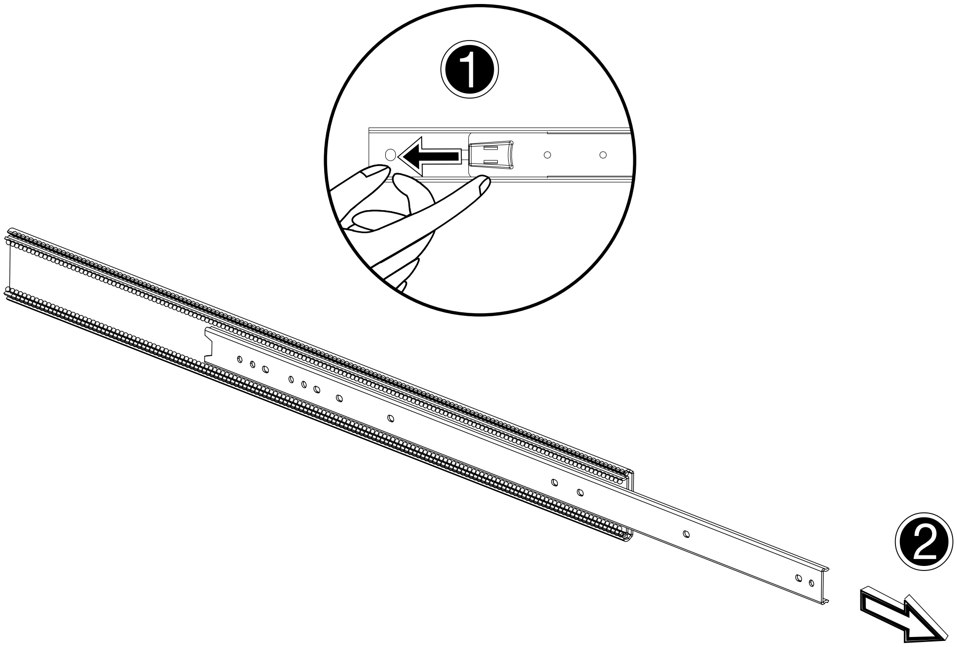
The Rack Mount Kit contains two sets of rack brackets and mounting rails. The rack brackets attach the mounting rails to the server. Each bracket is composed of three pieces: a detachable inner rail and a fixed middle and outer rails. The mounting rails hold the server in the brackets and allow the system to slide in and out of the rack for maintenance or upgrading purposes.

4 Remove the inner rail from the rack brackets.

(1) Extend the inner rail until the rail release latch clicks.

(2) Press the release latch then slip the inner rail out.

Do the same thing with the other rack bracket.

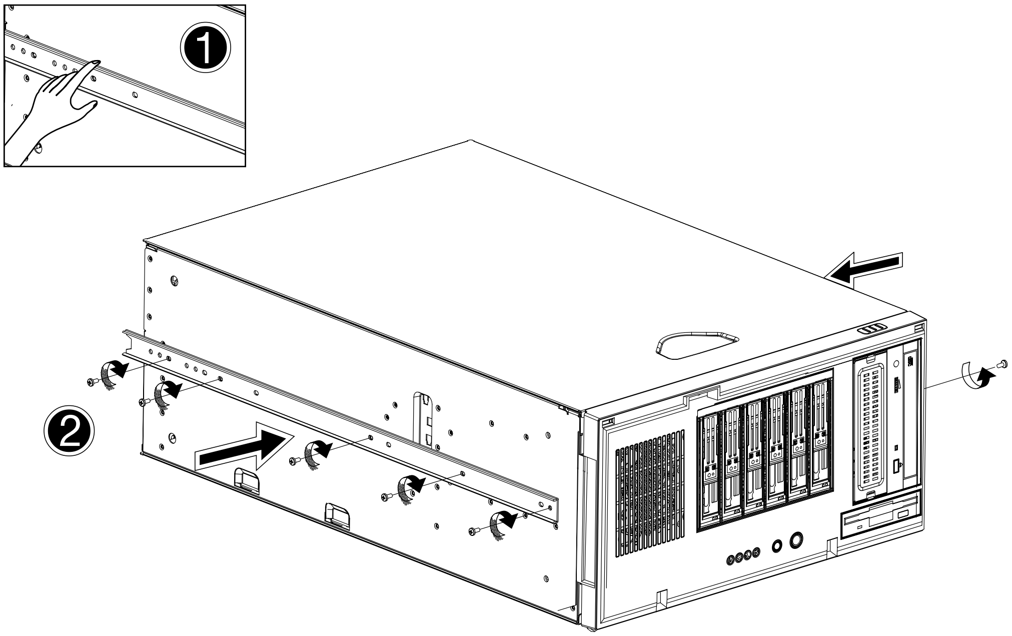


5 Attach the inner rails to the top and bottom (sides) of the server with the release catches toward the front of the system.

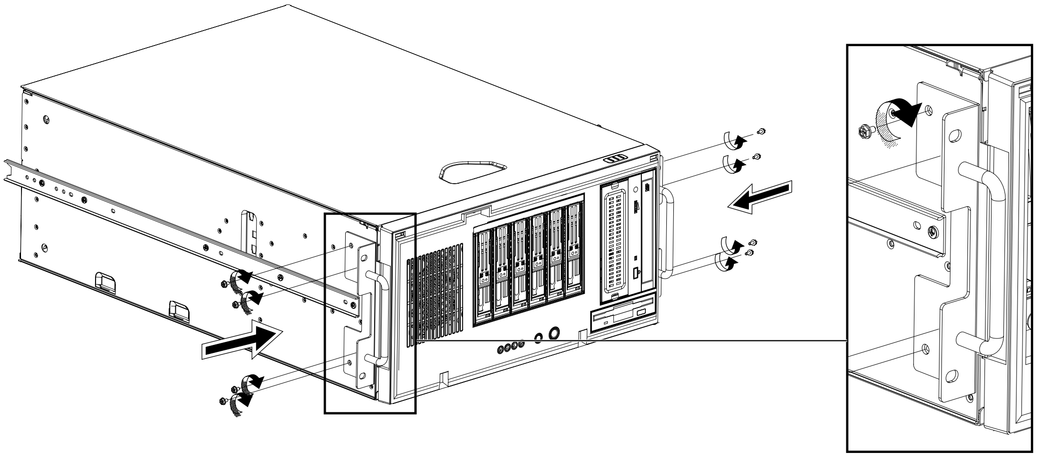
(1) Align the inner rail to the five screw holes located on the bottom of the server.

(2) Secure the rail to the server using #8-32 (1 on page 113) screws.

Attach the other inner rail to the top side of the server.



6 Attach the two side handles to the server using two hex head (2 on page 113) screws for each handle.



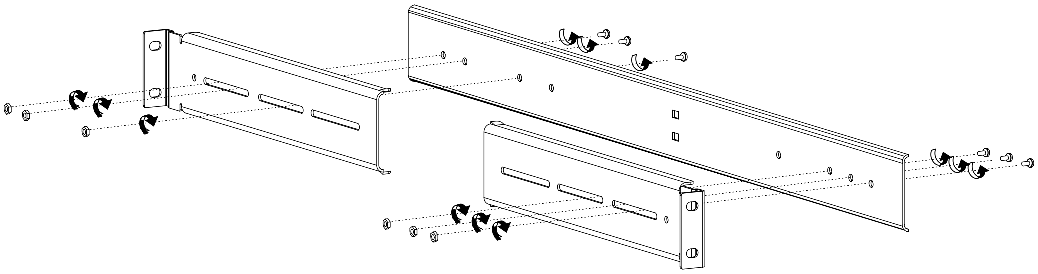
7 Set the server aside.

8 Attach the rack brackets to the mounting rails.

  a Align the rack brackets to the mounting rail until the six screw holes become visible.

  b Secure the rack bracket to the mounting rail using M4 x L8 (3 on page 113) screws and M4 nuts. Tighten the screws, but leave them loose enough to allow length adjustment when installing the mounting rails to the rack.

Attach the other rack brackets to the remaining mounting rail.



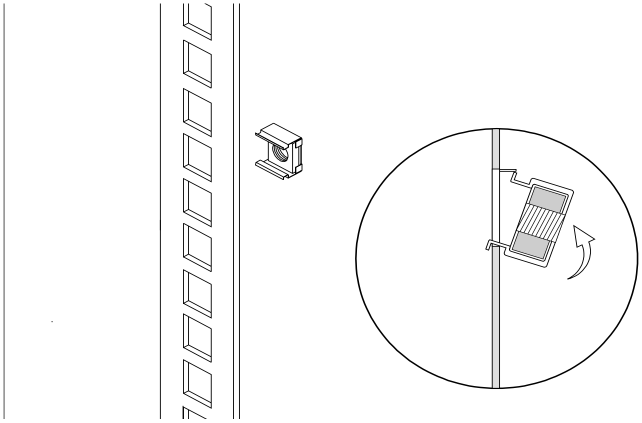
9 Install the mounting rails to the rack using four M6 x L10 (4 on page 113) screws and cage nuts (two at each end) for each mounting rail.

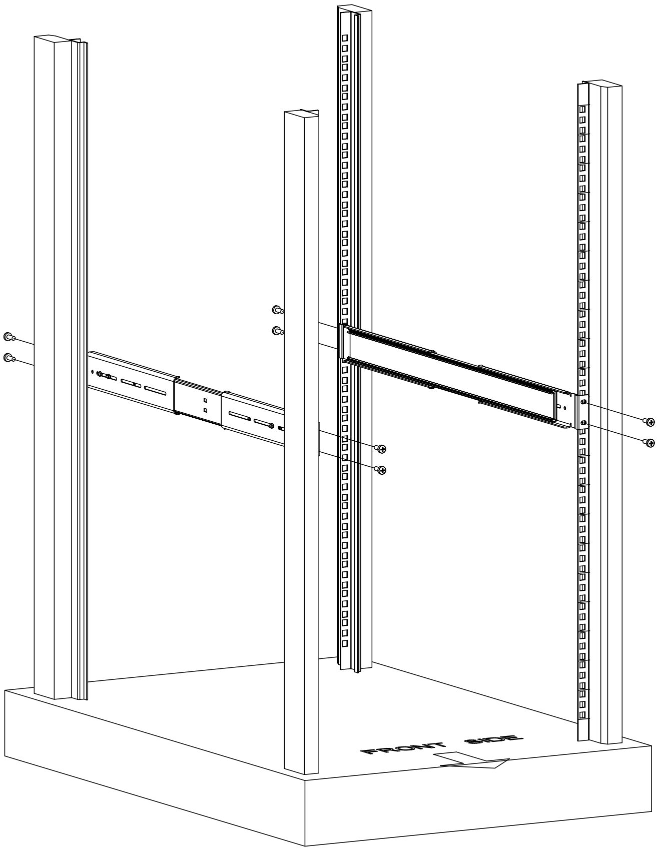
Installing cage nuts

Cage nuts are used to secure system and other components to the vertical rails in the rack.

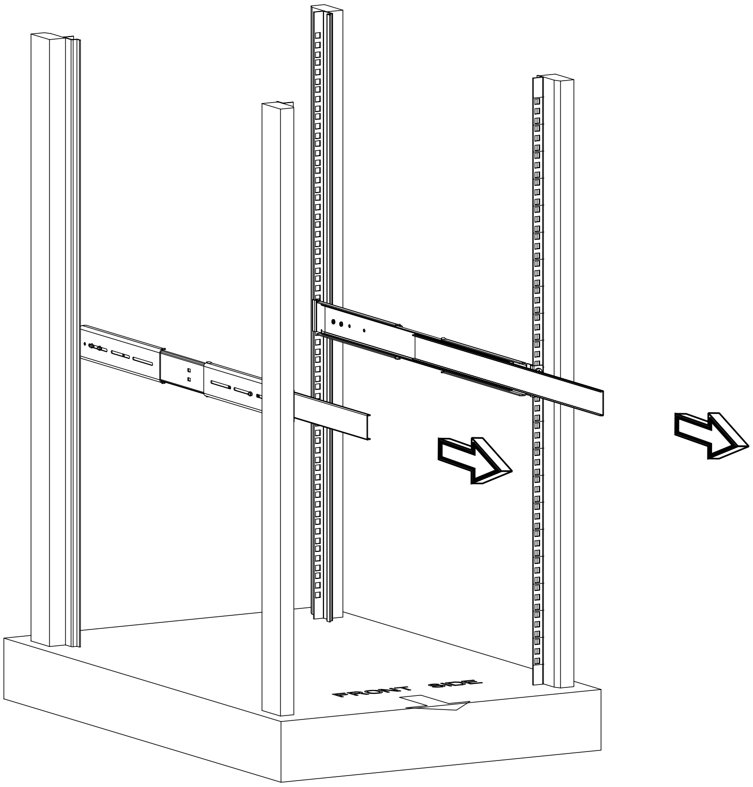
To install cage nuts:

- Insert the lower lip of the cage nut over the bottom of the opening at the back of a rail.
- With your fingers, pinch the cage nut rack fastener and push in until the top lip locks into position.
- Repeat this process to install the other cage nuts in their appropriate locations.




FRONT SIDE

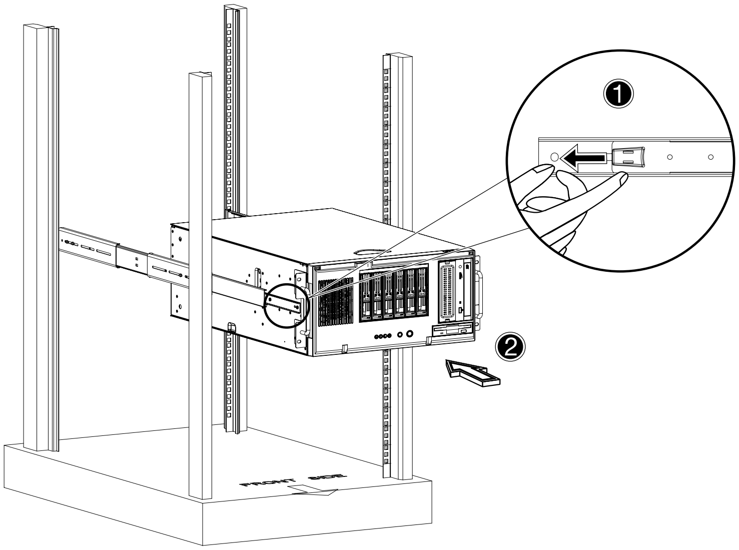
10 Extend the middle sliding piece of each mounting rail forward until it clicks.



11 Install the server into the rack by first carefully aligning the inner rails attached to the server with the fully extended middle mounting rails on the rack.

(1) Press the release latch on both sides of the server.

(2) Slide the server into the rack then push the server into the rack until it clicks.

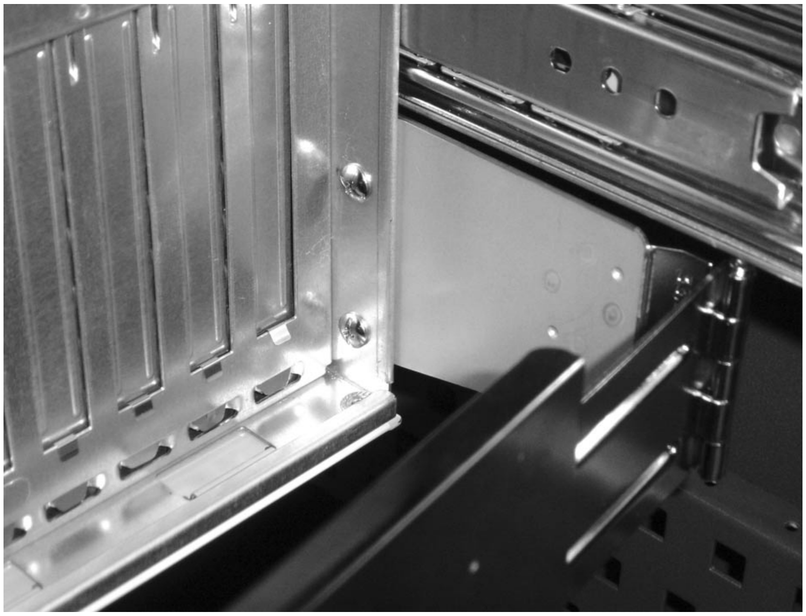


Caution! To avoid personal injury, care should be taken when pressing the component rail release latches and sliding the component into the rack.

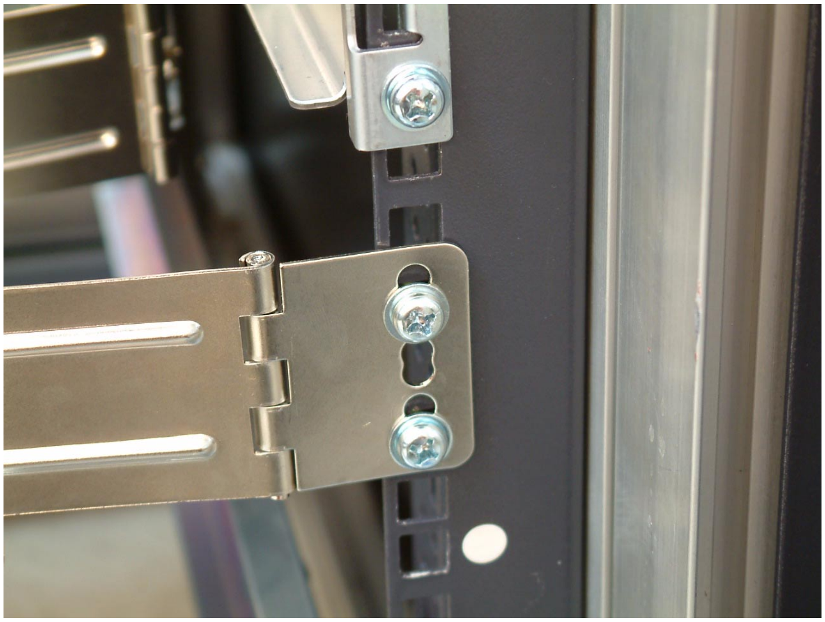
12 Attach the Cable Arm

The optional Cable Arm keeps peripheral and power cables from becoming tangled or severed when the system slides in or out.

(1) Attach the cable arm to the back of the server with two M4 x L8 (3 on page 113) screws and two nuts.

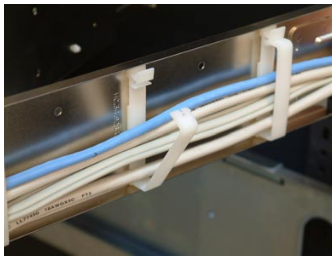


(2) Install two cage nuts in the rail to which the cable arm is to be attached. Extend the cable arm enough to attach it to the rail using two M6 x L10 (4 on page 113) screws.

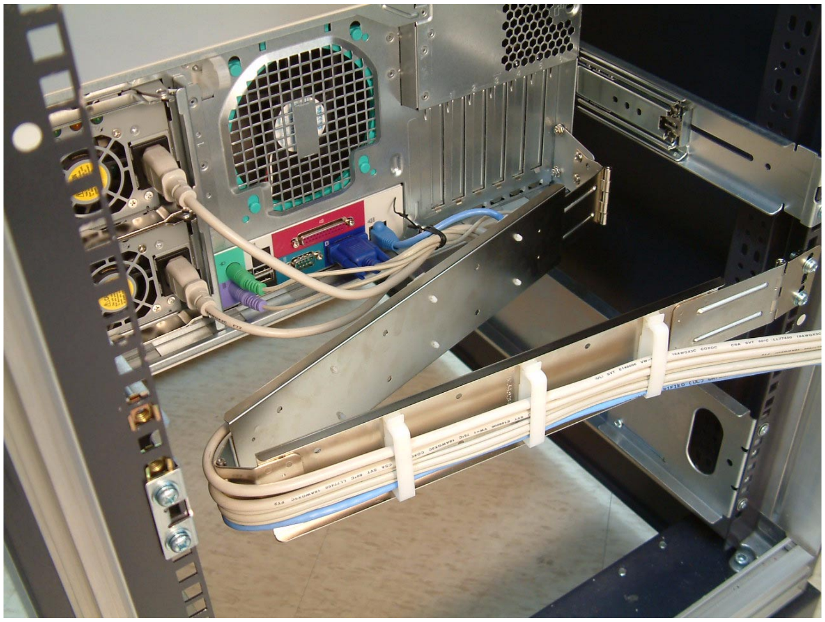


(3) Insert the power, peripheral and networking cables into the appropriate ports. Refer to ”Connecting peripherals” on page 22 for detailed instructions.

(4) Bundle all cables to the cable carrier with the cable clamps.



(5) The cable arm will protect the cables when the system is being moved into or out of the server rack.



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